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Alabama Polytechnic Institute.

AUBURN, ALABAMA.

1899⁸. - 1902

Learning and Labor.

LIBRARY

OF THE

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CLASS.

BOOK.

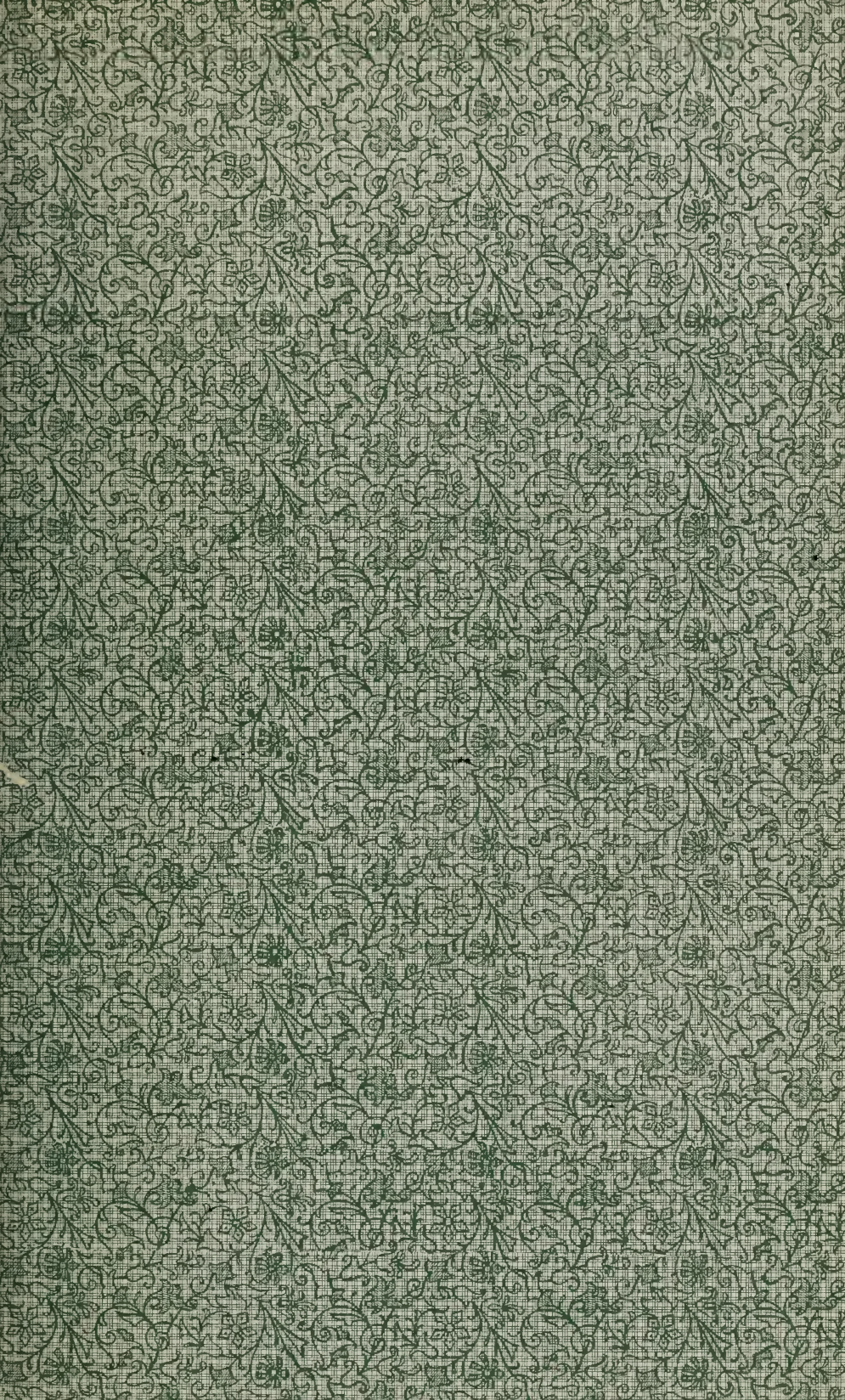
VOLUME.

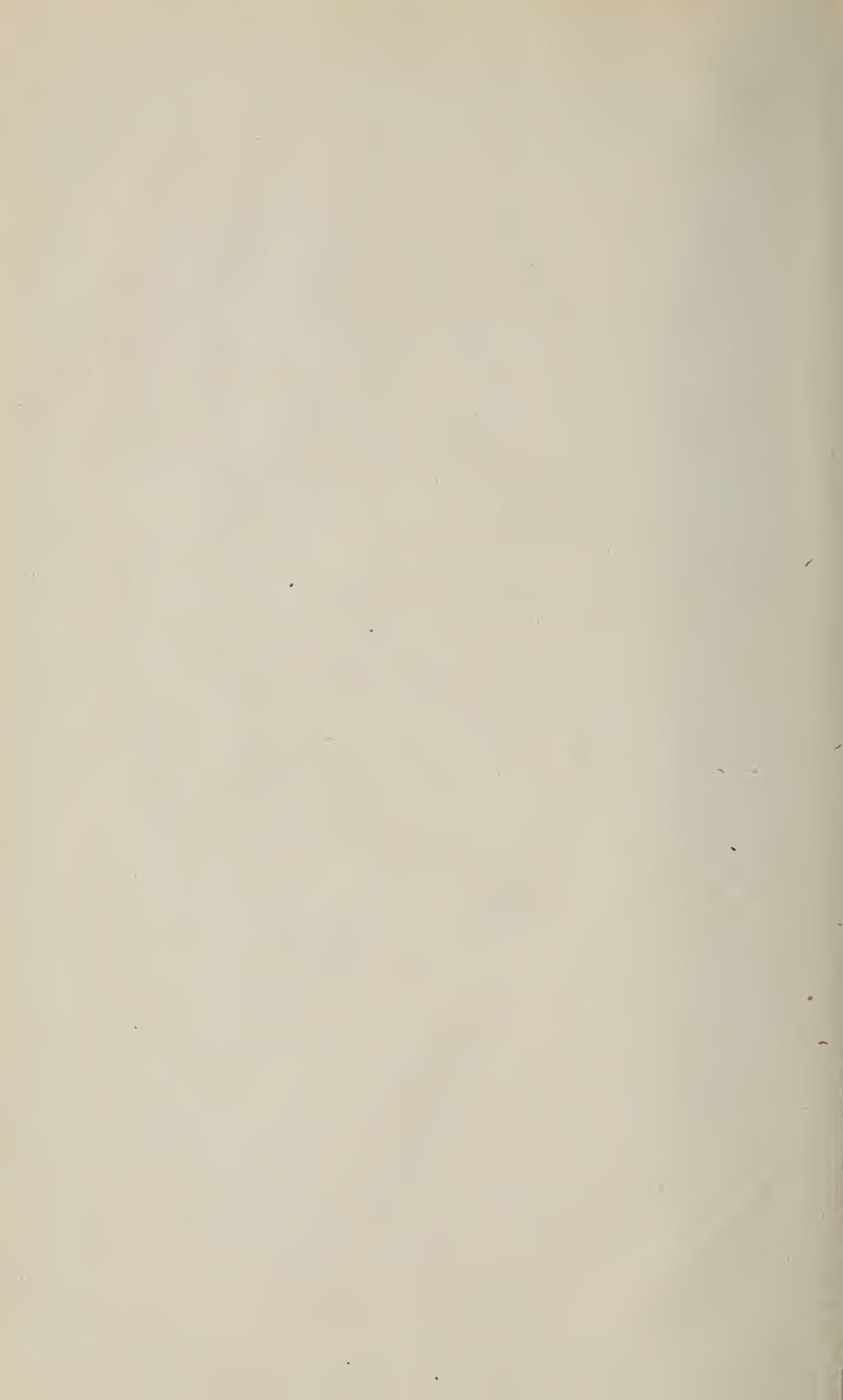
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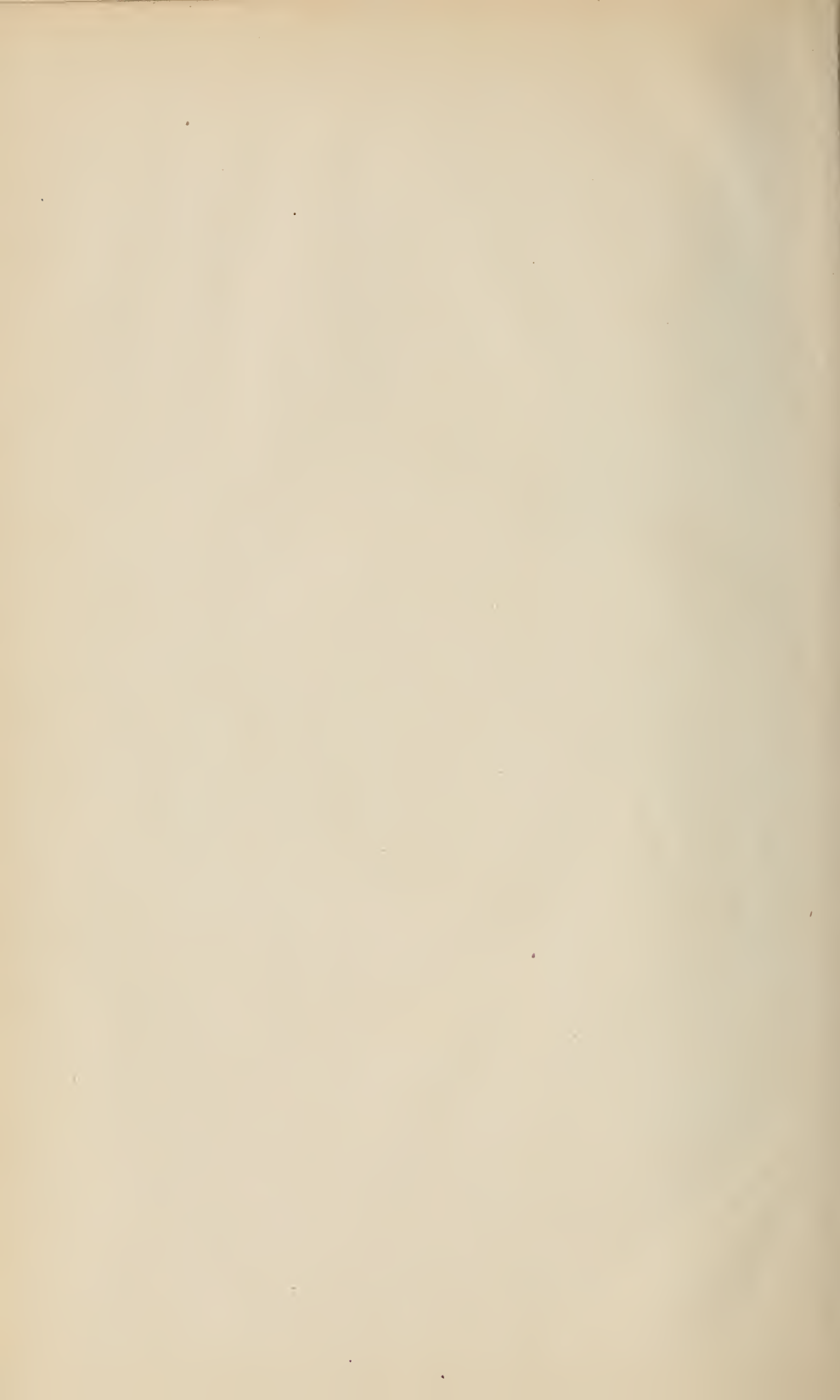
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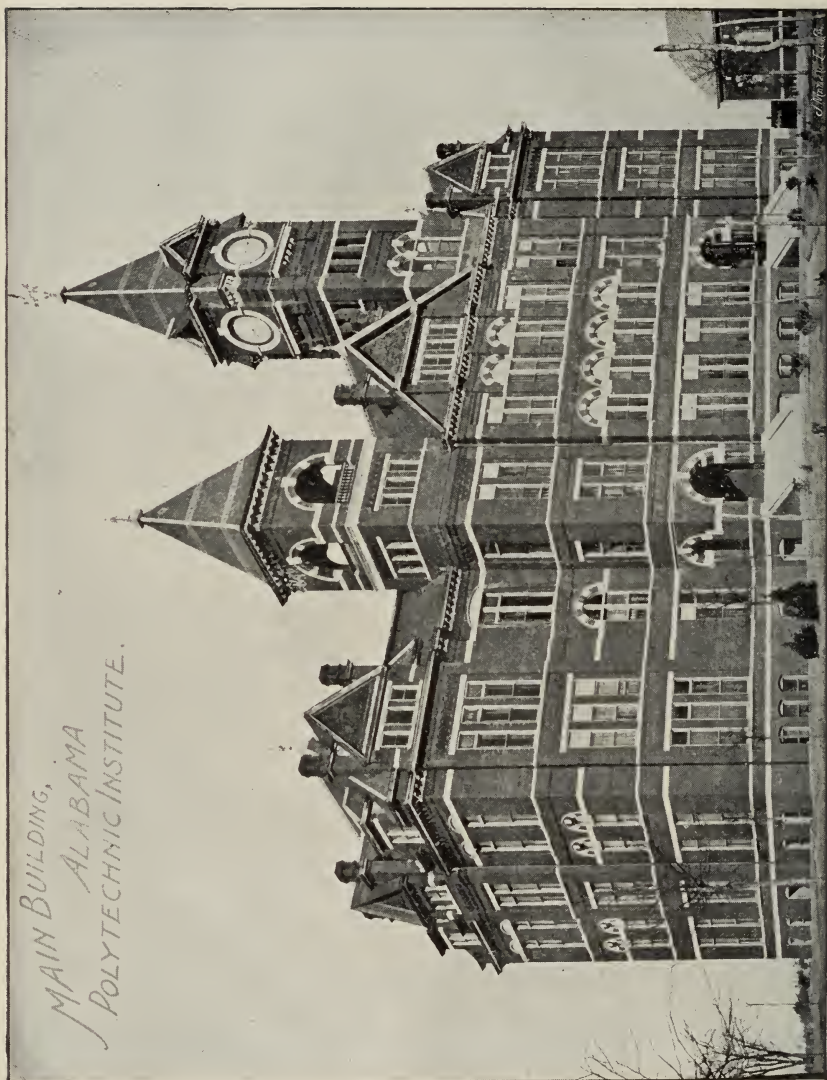


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MAIN BUILDING,
ALABAMA
POLYTECHNIC INSTITUTE.



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CATALOGUE

OF THE

Alabama Polytechnic Institute.

STATE COLLEGE.

FOR THE

Benefit of Agriculture and the Mechanic Arts.

AUBURN, ALABAMA.

1899-1900.

MONTGOMERY, ALA.:
BROWN PRINTING COMPANY,
1899.

TRUSTEES.

His Excellency, JOSEPH F. JOHNSTON, President.... *Ex-officio*.
JOHN W. ABERCROMBIE, Superintendent of Education.. *Ex-officio*.

J. G. GILCHRIST.....(term expires 1903).....Hope Hull.
TANCRED BETTS(term expires 1903).....Huntsville.
WALTER C. WHITAKER. .(term expires 1903).....Tuscaloosa.

JONATHAN HARALSON.....(term expires 1901).....Selma.
THOS. WILLIAMS.....(term expires 1901)..... Wetumpka.
J. A. BILBRO.....(term expires 1901).....Gadsden.

I. F. CULVER.....(term expires 1899).....Union Springs.
T. H. FRAZER.....(term expires 1899) Mobile.
H. CLAY ARMSTRONG....(term expires 1899).....Auburn.
R. H. DUGGAR.....(term expires 1899).....Gallion.

E. T. GLENN, Treasurer.
J. H. DRAKE, M. D., Surgeon.

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Aug 14
1999/1900 - 1901/02

FACULTY AND OFFICERS.

WM. LEROY BROUN, M. A., LL. D.,
President and Professor of Physics and Astronomy.

OTIS D. SMITH, A. M.,
Professor of Mathematics.

P. H. MELL, M. E., PH. D.,
Professor of Botany and Geology.

JAMES H. LANE, C. E., A. M., PH. D., LL. D.,
Professor of Civil Engineering and Drawing.

CHARLES C. THACH, A. M.,
Professor of English and Political Economy.

GEORGE PETRIE, M. A., PH. D.,
Professor of History and Latin.

A. F. MCKISSICK, A. M., M. M. E.,
Professor of Electrical Engineering and Physics.

B. B. ROSS, M. Sc.,
Professor of General and Agricultural Chemistry and State Chemist.

CHARLES H. ROSS, C. E., PH. D.,
Professor of Modern Languages.

J. J. WILMORE, M. E.,
Professor of Mechanical Engineering and Director of Laboratory.

C. A. CARY, B. Sc., D. V. M.,
Professor of Physiology and Veterinary Science.

E. R. MILLER, PHAR. M., M. Sc.,
Professor of Pharmacy.

J. F. DUGGAR, M. Sc.,
Professor of Agriculture.

F. S. EARLE,
Professor of Biology and Horticulture.

COL. B. S. PATRICK,
Commandant and Acting Professor of Military Science.

B. H. CRENSHAW, M. E.,
Instructor in Mechanic Arts and Mathematics.

C. L. HARE, M. Sc.,
Instructor in Chemical Laboratory.

H. H. KYSER, E. & M. E.,
Instructor in Physical Laboratory.

H. H. SMITH, M. Sc.,
Assistant Librarian.

M. T. FULLAN,
Assistant in Mechanic Arts.

A. H. Clark, B. Sc.,
Assistant in English.

W. M. WILLIAMS, M. Sc.,
Assistant in English and Mathematics.

G. N. MITCHAM, M. Sc.,
Assistant in Mathematics.

F. G. MORRISS, B. Sc.,
Assistant in Civil Engineering and Drawing.

A. S. MOSES, B. Sc.,
Assistant in Mechanic Arts.

A. B. RANSOM, B. Sc.,
Assistant in Chemistry.

J. R. McCALLA, B. Sc.,
Assistant in Agriculture.

JNO. HARALSON, B. Sc.,
Assistant in Electrical Engineering.

B. B. WARWICK, B. Sc.,
Assistant in Veterinary Science.

J. W. KING, B. Sc.,
Assistant in History and Latin.

W. E. JOHNSON,
Assistant in Horticulture.

C. C. THACH,
Superintendent of Library.

O. D. SMITH,
Corresponding Secretary.

OFFICERS

OF THE

AGRICULTURAL EXPERIMENT STATION.

COMMITTEE OF TRUSTEES ON EXPERIMENT STATION.

I. F. CULVER.....	Union Springs.
J. G. GILCHRIST.....	Hope Hull.
H. CLAY ARMSTRONG.....	Auburn.

STATION COUNCIL.

WM. LEROY BROUN.....	President.
P. H. MELL.....	Director and Botanist.
B. B. ROSS.....	Chemist.
C. A. CARY.....	Veterinarian.
J. F. DUGGAR	Agriculturist.
F. S. EARLE	Biologist and Horticulturist.
J. T. ANDERSON.....	Associate Chemist.

ASSISTANTS.

C. L. HARE.....	First Assistant Chemist.
J. Q. BURTON.....	Second Assistant Chemist.
T. U. CULVER.....	Superintendent of Farm.



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LANDON HALL.

OBJECT OF THE INSTITUTE.

The Institute is a distinctive school of Science and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts established by the State in 1872, by endowing it with the land-grant appropriation made by the U. S. Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its courses of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences is not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature, for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments :

I—IN AGRICULTURE AND HORTICULTURE.

The farm contains 226 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II—IN MECHANIC ARTS.

The laboratory of mechanic arts is used as an auxiliary in industrial education, and as a school of manual training in the arts that constitute the foundation of various industrial pursuits. The work performed by the students is *instructive* in character, as in any other laboratory, and the classes are taught in sections by a series of graded lessons under the supervision of the professor. In the lower classes of the Institute each student enters this school and is assigned three exercises a week, each exercise being two hours long.

The object of this laboratory is not to teach a trade, but to educate, to discipline and train the eye and the hand, as well as the mind, and thus by associating manual and mental training, to educate thoroughly the student for the duties of life, whatever may be his voca-

tion. There is no attempt to teach students special skill in constructing articles of commercial value, but all the exercises are systematically arranged and designed for purposes of education.

The wood department is located in a commodious hall, 90x50 feet, and is provided with a twenty-five horsepower Corliss engine, a planer, circular saw, band-saw, two scroll saws, a buzz planer, a pattern maker's lathe, twenty-four stands, each with a lathe and a full set of tools, and thirty benches for carpenter work with the tools requisite for construction.

A brick building, 30x87 feet, with two rooms, has been constructed especially for instruction in working iron.

One room is equipped with sixteen forges and tools required for a forge department, and the other with a Colliau cupola furnace, a core oven, a brass furnace, molding benches, foundry crane constructed by students, and special tools for use in a foundry.

The forge and foundry rooms are furnished with a Sturtevant fan and exhauster, supplied with power from a ten-horse power engine, constructed by the students in mechanic arts.

The machine department occupies a brick building, 30x50 feet, and is equipped with ten engine lathes, one speed lathe, one 20-inch drill press, one 10-inch sensitive drill, one post drill, one 16-inch shaper, one 5-foot planer, one universal milling machine, a corundum tool grinder, a small emery grinder, a universal cutter and reamer grinder, a No. 1 Brown & Sharpe universal grinding machine, and a power hack saw.

The chipping and filing department is arranged with benches, vises and tools for twelve students.

The tool room is well supplied with special tools for use in instruction, including a machine for grinding twist drills. The rooms are lighted with electricity whenever necessary.

III—IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research. The building contains a large general laboratory that accommodates sixty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV—IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies two large rooms in the basement and is equipped with many fine instruments of precision: Kelvin deka-ampere balance, Kelvin graded current and potential galvanometers, Cardew voltmeter, Weston voltmeters and ammeter, Queen's magnetic vane voltmeter and ammeter, Thomson watt-meter, Hartman and Braun voltmeter, Kohlrausch ammeter, Wood ammeter, Weston alternating current voltmeter, Weston direct reading watt-meter, Queen's "Acme" testing set, Rowland-D'Arsonval galvanometers, Kelvin electrostatic voltmeter, Edison ammeters, and many other current-measuring instruments, resistance boxes, Wheatstone bridges, condensers, telephones, batteries, magnets, etc.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a thirty-five horse power Westinghouse engine. In this building are installed the following dynamos:

Edison compound 12 Kilo-watt generator, Thomson-Houston 150 light 110 volt dynamo, Weston 150 volt 25 ampere generator, Crocker-Wheeler one horse power motor, Ideal 3 phase alternator, Brush 6 arc light dynamo with lamps, two Baxter street car motors, 20 horse power each (so connected as to be used as direct or alternating current motors or generators), one 5 horse power three phase motor, one General Electric 20 horse power motor, one 40 light shunt dynamo, one Edison 3 Kilo-watt generator, one Stanley induction motor with condenser, two bi-phase induction motors (built by students), one 9 light Thomson-Houston arc machine, two phase alternator and 500 volt 20 ampere generator, made by students. There is also in connection with this department at the experiment station, a ten horse power motor, made by students, which is operated by the 500 volt generator in the dynamo room.

V—IN PHYSICS.

In the College building provision is made for elementary laboratory work in the department of physics. Special rooms are appropriated for this purpose, and are equipped with the necessary appliances for instruction in practical physics.

VI—IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII—IN BOTANY.

In the work of the agricultural experiment station there is a botanical garden under the charge of the professor of botany, investigations in botany are given special attention, and opportunities are offered advanced students for practical work in a laboratory especially

fitted with microscopes, tables, a dark room for photographic work, and appliances needed for instruction and research. This department is provided with Auzoux's elastic models of seeds and flowers for teaching botany.

VIII—IN BIOLOGY.

The laboratory in this department adjoins the lecture room of the professor, and is furnished with tables, excellent microscopes and appliances for investigation. Each student of the class works under the supervision of the professor.

IX—IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

X—IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing-room, which will accommodate fifty students, is provided with tables, lock boxes, etc.

XI—IN MECHANICAL ENGINEERING.

The mechanical course has been extended to include experimental work in mechanical engineering.

The apparatus available for this instruction is as follows: A 45 horse power Imperial Cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump, a 25 horse power Harris-Corliss engine, a 35 horse power Atlas engine, two 9 horse power engines constructed by students, the boilers belonging to the regular power plant, a small engine and boiler for the special purpose of making efficiency tests, a Deane duplex steam pump, a four horse power gaso-

line engine, an Ericsson hot air engine, a New York air pump, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, thermometers, a pyrometer, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester with weights for correcting the standard gauge, a 35,000-pound testing machine, a Henning micrometer extensometer, and a Carpenter calorimeter with the necessary auxiliary apparatus for determining the heating value of different kinds of coal.

This work is now carried on in the lower story of the annex to the chemical laboratory. This room is 30 x 60 feet in size and was specially designed and fitted up for this purpose. A three-inch steam main has been laid from the boiler house, thus securing a steam supply in the building for all work requiring it. The work is thoroughly practical, and it is desired to extend it as rapidly as the funds available for the purchase of apparatus will allow.

XII—IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

XIII—IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor, from five to eight hours, six days in the week.

It is expected to increase the facilities as means are available.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and in addition the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with new cadet muskets and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160 x 71 feet and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90 x 50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page, is a two story structure, 40 by 60 feet, with a rear projection, 35 by 60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for mechanical engineering, and drawing.



PHOTO. ENG. CO. N.Y.

CHEMICAL LABORATORY.

GRADUATES IN 1898.

CLASS OF 1898.

HONOR GRADUATES.

COURSE IN CHEMISTRY AND AGRICULTURE.

Arthur McBride Ransom.....Georgia.

COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

Jonathan Haralson.....Dallas.

COURSE IN CIVIL ENGINEERING.

Frank Greene Morriss.....Talladega.

GENERAL COURSE.

{ Halbert Clyde Ray.....Geneva.
{ Alexander Humphreys Clark.....Montgomery.

COURSE IN PHARMACY.

John Wesley Williams.....Lee.

DEGREES.

BACHELOR OF SCIENCE.

John Cocke Abernethy.....Florida.
Lemuel Sledge Allen.....Margeno.
Erin Black.....Lee.
Mary Wright Boyd.....Lee.
William Hamill Bruce.....Montgomery.
Alexander Humphreys Clark.....Montgomery.
Henry Neal Coleman.....Lowndes.
George Oliver Dickey.....Crenshaw.
Duncan Patterson Dixon.....Talladega.
Clifford Lamar Edwards.....Lee.
Richard Roe Eppes.....Margeno.
Frank Farley.....Lee.
William Shelby Garner.....Shelby.
Elmer Wynn Gray.....Georgia.
Jonathan Haralson.....Dallas.
Francis Williams Hare.....Lee.
Charles Edward Harrison...Florida.

Harry Streety Houghton.....	Jefferson.
William Earle Hudmon.....	Lee.
Joseph Wood King.....	Georgia.
Absalom Mason Kennedy.....	Montgomery.
Jessie Hamilton Lockhart.....	Georgia.
John Richard McCalla.....	Lee.
Peter Mastin McIntyre.....	Montgomery.
Julia Hill Moore.....	Lee.
Frank Greene Morriss.....	Talladega.
Ashleigh Strudwick Moses.....	Baldwin.
John Sanford Paden.....	Etowah.
Alexander Simpson Pow.....	Jefferson.
Annie Lucinda Purifoy.....	Lee.
Arthur McBride Ransom.....	Georgia.
Halbert Clyde Ray.....	Geneva.
James Barrie Shivers.....	Perry.
Newton Caraway Smith.....	Shelby.
Clifford West Stewart.....	Montgomery.
Edward Wadsworth Stone.....	Montgomery.
Rush Price Strong.....	Mobile.
Almuth Cunningham Vandiver.....	Talladega.
Bishop Billing Warwick.....	Talladega.
John Wesley Williams.....	Lee.
Joseph Leonard Wood.....	Mobile.
Neander Montgomery Woods.....	Tennessee.
Arthur Williamson Greene (class of 1897).....	Chambers.

CIVIL ENGINEER.

George Nathan Mitcham.....	Georgia.
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ELECTRICAL AND MECHANICAL ENGINEER.

Thomas Ganaway Conner.....	Macon.
Arthur Williamson Greene.....	Chambers.
William Welch Hill.....	Talladega.
Benjamin Sweat Patrick.....	S. Carolina.

MASTER OF SCIENCE.

James Washington Culver.....	Lee.
George Webster Duncan.....	Lee.
John Buford Hobdy.....	Bullock.
George Michael Holley.....	Georgia.
Edwin Boyce Joseph.....	Montgomery.
William Parker Leonard.....	Georgia.
William Jacob Nixon.....	Tennessee.
Frederick Loyd Tate.....	Russell.
Reuben David Webb.....	Coosa.

DISTINGUISHED STUDENTS.

Students who receive a grade above 90 in three studies in the freshman class, in four in the Sophomore, in five in the junior, and in six in the senior, are distinguished for excellence in scholarship, and are awarded

HONOR CERTIFICATES.

The following students received honor certificates in 1898:

SENIOR CLASS.

Erin Black	Lee.
Mary Wright Boyd	Lee.
Alexander Humphreys Clark	Montgomery.
Frank Farley	Lee.
William Shelby Garner	Shelby.
Jonathan Haralson	Dallas.
Charles Edward Harrison	Florida.
Harry Streety Houghton	Jefferson.
William Earle Hudmon	Lee.
Jessie Hamilton Lockhart	Georgia.
Julia Hill Moore	Lee.
Frank Greene Morriss	Talladega.
Alexander Simpson Pow	Jefferson.
Annie Lucinda Purifoy	Lee.
Arthur McBride Ransom	Georgia.
Halbert Clyde Ray	Geneva.
Rush Price Strong	Mobile.
John Wesley Williams	Lee.

HONOR STUDENTS IN THE JUNIOR CLASS.

COURSE IN CHEMISTRY AND AGRICULTURE.

Flake Earle Farley	Loe.
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COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

Julien Chandler Yonge	Florida.
-----------------------------	----------

GENERAL COURSE.

William Oscar Scroggs	Georgia.
-----------------------------	----------

JUNIOR CLASS.

Alston Boyd.....	Tennessee.
Bailey Edgar Brown.....	Morgan.
Mattie Lucile Burton.....	Lee.
Thomas Greene Bush.....	Calhoun.
McNeill Crawford.....	Lee.
Marion Dawson.....	Elmore.
Flake Earle Farley.....	Lee.
Jones Stephen Gilliland.....	Coosa.
Kate Meade Lane.....	Lee.
Lottie Everard Lane.....	Lee.
Isham Fennell McDonnell.....	Madison.
Hattie Marshall Phelps.....	Lee.
Mary Evelyn Robinson.....	Lee.
William Oscar Scroggs.....	Georgia.
William Alexander Thomason.....	Randolph.
Julien Chandler Yonge.....	Florida.

SOPHOMORE CLASS.

John Samuel Black.....	Lee.
Guy French Boyd.....	Lee.
Jesse Wright Boyd.....	Lee.
William Crawford Dowdell.....	Lee.
Luther Noble Duncan.....	Franklin.
Sherman Guy Forbes.....	Henry.
Edward Zellars Heard.....	Lee.
John Paul Illges.....	Georgia.
Moses Frank Kahn.....	Lee.
Charles Wellington Nixon.....	Tennessee.
Hiram Perry Powell.....	Georgia.
James Richard Rutland.....	Chambers.
John Winfred Shuff.....	Talladega.

FRESHMAN CLASS.

William LeGrande Burnett.....	Barbour.
John Drewry Foy.....	Barbour.
Arthur Flournoy Jackson.....	Georgia.
Abram Hill Mitchell.....	Lee.
Gaius Whitfield.....	Marengo.
Edward Houston Wills.....	Lee.

CATALOGUE OF STUDENTS.

FOR THE SESSION OF 1898-99.

GRADUATE STUDENTS.

[Residence is Alabama when State is not given.]

NAME.	RESIDENCE.
Erin Black	Lee.
Mary Wright Boyd	Lee.
Alexander Humphreys Clark	Montgomery.
Toccoa Cozart	Montgomery.
Henry Neal Coleman	Lowndes.
Jonathan Haralson	Dallas.
Francis Williams Hare	Lee.
Charles Edward Harrison	Florida.
Joseph Wood King	Georgia.
John Richard McCalla	Lee.
George Nathan Mitcham	Lee.
Frank Greene Morriss	Talladega.
Ashleigh Strudwick Moses	Baldwin.
Annie Lucinda Purifoy	Lee.
Arthur McBride Ransom	Georgia.
Bishop Billing Warwick	Talladega.
John Wesley Williams	Lee.
George Wrigley	Georgia.

UNDERGRADUATE STUDENTS.

SENIOR CLASS.

LeRoy James Allen ..	Marengo.
Jesse Maldrie Atkinson	Dale.
Emmett Gale Buck	Mobile.
Alston Boyd	Tennessee.
Harriet Lavinia Dabney Bondurant	Lee.
Bailey Edgar Brown	Morgan.
Mattie Lucile Burton	Lee.
Thomas Greene Bush	Calhoun.

Charles Wallace Collins.....	Hale.
McNeill Crawford.....	Lee.
Colonel Seldon Crew.....	Coosa.
Frederick Robert Daly.....	Jefferson.
Bolivar Davis.....	Jefferson.
Marion Dawson.....	Elmore.
James Francis Dobbin.....	Florida.
Flake Earle Farley.....	Lee.
Arthur Henry Feagin.....	Bullock.
Hugh Matherson Fenn.....	Barbour.
Michael Thomas Fullan.....	Georgia.
Jones Stephens Gilliland.....	Coosa.
John Ross Glenn.....	Lee.
Theophilus Eaton Goodwin.....	Crenshaw.
Fannie Maud Holstun.....	Lee
Felix Grundy Horn.....	Sumter.
Kate Meade Lane.....	Lee.
Lottie Everard Lane.....	Lee.
Harry Toulmin Lay.....	Montgomery.
Thomas Hennington McAdory.....	Jefferson.
Isham Fennell McDonnell.....	Madison.
Charles Henry Merritt.....	Chilton.
Jackson Chadwick Minge.....	Marengo.
Benjamin Otey Minge.....	Marengo.
Hartley Alley Moon.....	Coosa.
James Royden Peabody.....	Georgia.
Hattie Marshall Phelps ..	Lee.
Lawrence Bratton Rainey.....	DeKalb.
Mary Evelyn Robinson.....	Lee.
John Osgood Rush.....	Autauga.
William Oscar Scroggs.....	Georgia.
James Cary Slaton.....	Macon.
Joseph Wilson Sutcliffe.....	Louisiana.
Dozier Turner.....	Elmore.
James Alfred Ward.....	Madison.
Thomas William Wert.....	Morgan.
George Madison Wheeler.....	Madison.
Julien Chandler Yonge.....	Florida.

JUNIOR CLASS.

Frank Hunter Anderson	Bullock.
William Lawrence Anderson	Montgomery.
Fletcher Ashcraft	Lauderdale.
Robert Pierce Baldwin	Russell.
Malcolm Alfred Beeson	Etowah.
John Samuel Black	Lee.
Guy French Boyd	Lee.
Jesse Wright Boyd	Lee.
Millard Morse Brooks	Escambia.
Abner Mason Buchanan (c)	Lee.
Edwin Bukofzer	Tennessee.
Judson Lamar Burke	Lee.
Andrew Crozier Cameron	Jefferson.
Frank Bovard Chapman (c)	Louisiana.
Asbury Nicholson Culver	Lee.
Emma Beall Culver	Lee.
William Crawford Dowdell	Lee.
Ellis Madison Duncan	Franklin.
Luther Noble Duncan	Franklin.
Rutherford Sylvanus Finch.	Montgomery.
John Jefferson Flowers	Butler.
Sherman Guy Forbes	Dale.
Earle Humphreys Foy	Barbour.
James Edgar Foy	Barbour.
Charles Eugene Fuller (c)	Chambers.
James Olney Goggaus	Tallapoosa.
Bertha Mae Grout	Lee.
William Weatherly Hannon (c)	Montgomery.
Roland B. Hall	Georgia.
Harry Young Hall	Jefferson.
Charles Lewis Harold	Escambia.
Edward Zellars Heard	Lee.
Mabel Heard (c)	Lee.
James Alexander Hines (c)	Chambers.
Mary Katherine Hollifield	Lee.

(c) Conditioned.

John Paul Illges	Georgia.
George Martin Illges (c)	Montgomery.
Walter Atlee Jordan	Elmore.
Moses Frank Kahn	Lee.
Wilber Edrald Kelley	Jefferson.
Henry Daes Lesesne	Mobile.
William Christopher Martin	Lee.
John Maples	Russell.
Enoch Marvin Mason	Lee.
Walter Deems McCrary	Lee.
Benjamin Lee McGee (c)	Georgia.
James Hardie McGehee	Montgomery.
Kenneth Bethune McKenzie	Butler.
Edward Andrew Miller (c)	Marshall.
William Livingston Neill	Jefferson.
Charles Wellington Nixon	Tennessee.
William Forney Osburn	Lee.
Hiram Perry Powell	Georgia.
Fleming James Rigney	Madison.
James Richard Rutland	Chambers.
William Stowe Rutledge	Lee.
Frederick Blount Shepard (c)	Mobile.
John Winfred Shuff	Talladega.
Joseph Manning Steiner	Butler.
Horace Ware	Calhoun.
John Rutledge Williams	Jefferson.
James Waldo Woodruff	Georgia.
Moses Conrad Wright	Macon.

SOPHOMORE CLASS.

Oliver Burnside Andrews	Tennessee.
Stearnes Pearson Baker	Tallapoosa.
Joseph Nathaniel Barker	Georgia.
Frank Carlisle Bivings	Georgia.
Thomas Bragg	Lee.
Kenneth Bradford	Montgomery.
William LeGrande Burnette	Barbour.

(c) Conditioned.

Salmon Holmes Burns	Lee.
Henry Herschel Conner	Macon.
James Lorenzo Deaton	Georgia.
John Isham Dorsey (c)	Lee.
William Hamilton Eager	Tennessee.
John Heron Edmonson	Barbour.
Eugene Flynn Enslen	Jefferson.
Malcolm Nassau Fleming	Georgia.
John Drewry Foy	Barbour.
William Alexander Frazer	Lee.
Walter Lee Greene	Lee.
Jacob Lionel Haas	Montgomery.
Alexander Cameron Hannon	Montgomery.
Paul Shields Haley	Walker.
Wallace Benjamin Harrison	Talladega.
Michael Smith Harvey	Lee.
Daniel Haygood Haynes	Lowndes.
William Baxter Haynes	Lowndes.
Charles Henry Haynes	Bullock.
James Kelly Haynie	Montgomery.
Arber Samuel Hertz	Georgia.
Robert Holland Hood	Jefferson.
Frank Dowsing Howard	Autauga.
Edwin Dewitt Huguley	Georgia.
Blair Hughes (c)	Jefferson.
Arthur Flournoy Jackson	Georgia.
James Baxter Jackson	Lee.
Jefferson Franklin Jones	Sumter.
Gordon Houston Jones (c)	Montgomery.
Myron Daniel Kahn	Lee.
Claude Kauffman	Mobile.
Emmett Stephens Killebrew	Dale.
Howard Malcolm Kilpatrick	Georgia.
Edward Kelley	Montgomery.
Karl Edward Lindrose	Mississippi.
William Reid Lancaster (c)	Lee.

(c) Conditioned.

Daniel Stacy Martin	Barbour.
Robert Murdoch Martin.....	Barbour.
Earle Edwin McBryde	Wilcox.
Edward Pinson McLennan	Barbour.
Benjamin Baldwin Meriwether.....	Montgomery.
Abram Hill Mitchell.....	Lee.
Isaac Lenoir Moore.....	Montgomery.
Merrill Hastings Moore	Montgomery.
Alexander Jackson Moseley.....	Bullock.
William Boyd McGehee.....	Montgomery.
William Louis Noll	Tennessee.
Carlyle Nisbet.....	Georgia.
James Cochran Phelps.....	Lee.
James Blackmon Powell	Bullock.
Shepherd Harrison Roberts.....	Montgomery.
Oscar Menderson Schloss.....	Morgan.
Wilbur Allen Sellers.....	Bullock.
Henry Alexander Skeggs (c).....	Morgan.
John Hunt Skeggs.....	Morgan.
Matthew Scott Sloan.....	Mobile.
Holland McTyeire Smith	Russell.
Godfrey Rhodes Thomas.....	Sumter.
Earnest Walter Thompson.....	Lee.
Manly Curry Turpin.....	Virginia.
Henry Edward Werner.....	Texas.
Leonidas Whorton.....	Cherokee.
Gaius Whitfield	Marengo.
Jere Crawford Williams.....	Lowndes.
Edward Houston Wills.....	Lee.

FRESHMAN CLASS.

Oliver Hannibal Alford.....	Marshall.
Samuel Pitts Anderson.....	Russell.
William Warren Askew.....	Georgia.
Ralph Calloway Armstrong.....	Lee.
Albert Miner Avery.....	Florida.
Bennett Gordon Beck.....	Georgia.

(c) Conditioned.

Charles Homer Bilingsley.....	Elmore.
Ellerslie Wallace Bullard.....	Calhoun.
Charles Clifton Bown.. (c).....	Bibb.
Clyde Allen Collins.....	Hale.
Oscar Cunningham.....	Limestone.
Gerald Matthers Crenshaw.....	Perry.
Pearce Henry DeBardleben	Lee.
Solon Malone Davis.....	Georgia.
Warren Alfred Dewees.....	Tennessee.
Paul Metzger Eichelberger.....	Calhoun.
Jesse Duncan Elliott..	Wyoming.
James Douglas Farley.....	Lee.
David Fleming	Montgomery.
John Sears Francis.. (c)	Jefferson.
Jeremiah Warren Gwinn.....	Jefferson.
William Houston Gwinn.....	Jefferson.
James Browder Garber.....	Hale.
Clifton Duane Haynie	Lee.
William Tillman Heard.....	Lee.
Oscar Lynn Henry.....	Marshall.
Franklin Jerome Houston.....	Jefferson.
Garrett Newton Hudmon.....	Lee.
John Snow Jemison	Jefferson.
Albert Sidney Johnson.....	Colbert.
Collins Johnson.....	Missouri.
James Taylor Jones.....	Marengo.
Morris Ketchum.....	Florida.
James Hartwell King.....	Colbert.
James Allen Kyser.....	Dallas.
Earnest Linwood Maury.....	Choctaw.
Ross Earnest Mattison.....	Calhoun.
Roscius Sandwich McMichael.. (c).....	Georgia.
Fern Wood Mitchell.....	Etowah.
Peter Preer Myhand.....	Lee.
Henry Bigham Park.....	Georgia.
William Marcus Peters.....	Perry.
Wallace Powers Pruitt.....	Lowndes.

Daniel Syers Robertson.....	Chambers.
Edward Prescott Rutland....(c).....	Lee.
Charles Martin Shepard.....	Mobile.
Richard Blount Shepard.....	Mobile.
Julian Cassius Smith.....	Macon.
Philip Ware Smith.....	Calhoun.
Alfred Huntington Stevenson.....	Mobile.
Siddons Stollenwerck	Marengo.
Jonathan Render Thomas.	Sumter.
Abner Mason Torbert.....	Macol.
Elijah Albert Turner.....	Lee.
George John Turner.....	Florida.
John Morgan Turner.....	Lee
Non Dura Ward....(c).....	Tallapoosa.
Clifford Noble Wallace.....	Elmore.
Mem Creagh Webb.....	Marengo.
Walker Dorr Willis.....	Florida.
Forney Renfro Yarbrough.....	Georgia.
John Evers Davis Yonge.....	Florida.

(c) Conditioned.

SPECIAL AND IRREGULAR STUDENTS.

Abbreviations: Ph—Pharmacy; E. & M. E.—Electrical and Mechanical Engineering; C.—Chemistry; Ag.—Agriculture; C. E.—Civil Engineering; M. A.—Mechanic Arts.

James Wilson Bandy.....	PH.....	Lee.
Milton Columbus Baldridge....	PH.....	Madison.
Arthur Bernard Beringer.....		Barbour.
Peter Alexander Brannon.....	PH.....	Russell.
Charles William Brassfield....	PH.....	Marengo.
Charles Louis Bragaw.....	PH.....	Lee.
Mortimer Perry Brown.....		Pike.
Walter Leslie Bryant.....	PH.....	Georgia.
Rufus White Butler.....	PH.....	Lee.
William James Cameron		Jefferson.
Charles Newton Carraway.....	PH.....	Montgomery.
Edwin Weaver Caro.....	M. A.....	Florida.
William Cruse Coles.....		Calhoun.

Harris Hill Cory.....		Autauga.
Ramon Eraso.....	E. & M. E.	Venezuela.
William Bullock Fleming.....		Montgomery.
Harry Lavan Fitch.....		Wilcox.
John Knox Franklin.....		Bullock.
Loren Gary.....		Barbour.
Swoope Darrow Gilbert.....	E. & M. E.	Lauderdale.
James McAnelly Gill.....		Madison.
Frank Crouch Green.....	E. & M. E.	Georgia.
William Hope Haigler.....		Montgomery.
Eula Belle Hale.....		Lee.
John Dabney Hamilton.....	PH.....	Marion.
John Albert Hannah.....	PH.....	Florida.
Ethel Tilman Heard.....		Lee.
Bunn Young Hill.....		Georgia.
John William Jepson.....	E. & M. E.	South Carolina.
Walter Eldridge Johnson.....		Lee.
William Francis Johnston.....		Calhoun.
John Alexander Lanford.....	PH.....	Sumter.
Robert Paterson Manly.....	E. & M. E.	Georgia.
George Mathews Marks.....		Montgomery.
James Philip Martin.....		Lee.
Andrew McCord.....		Lee.
Graham Merchant.....	E. & M. E.	Lee.
Louie Huntington Moore.....		Montgomery.
James Crowder Moore.....		Lee.
Llewellyn Perry Motley.....		Lee.
Robley Charles Munger.....		Jefferson.
James William Patton.....		Chilton.
Emile Thomas Peddy.....	M. A.....	Lee.
Morris Pelham.....	M. A.....	Calhoun.
James Garnett Pruitt.....	PH.....	Barbour.
Mary Robins Sampey.....		Conecuh.
Howard Culver Rush.....	M. A.....	Mobile.
Peter Sequeira.....	M. A.....	Nicaragua, C. A.
Lewe Frank Sessions.....		Bullock.
Maurice Garbery Shannon.....	C.....	Jefferson.

Sidney Ewing Simpson.....	E. & M. E..	Montgomery.
Walter Ellis Sistrunk.....	PH.....	Elmore.
Henry Bennett Thompson.....	PH.	Lee.
Elijah Smith Weldon.....		Elmore.
Charles Finley White.....		Jefferson.
William Dunbar Wills.....	C.....	Lee.

SUB-FRESHMAN CLASS.

John Mangum Buchanan.....	Lee.
Cecil Battle Brown.....	Pike.
George Robinson Bryant.....	Baldwin.
Walter Brooks Cawthorn	Mobile.
Walter Davis Compton.....	Pike.
Weedham Lee Drury.....	Barbour.
Jerry William Dumas.....	Lee.
James William Flanagan.....	Lee.
Harry Fannin Gohlson.....	Pike.
Bell George Hazard.....	Kentucky.
Charles Henry Howle.....	Calhoun.
Bartow Elliott Ingram.....	Russell.
Emmett Llewellyn Jones.....	Calhoun.
Walter Henry Jones.....	Pike.
John Fulton Lanier.....	Madison.
Frank Runals McElhaney.....	Lee.
Frederick Clifton Maddox.....	Georgia.
Earnest Linwood Mayberry	Lee.
William Osborn Mitchell.....	Lee.
Edward LeRoy Napier.....	Lee.
Stanley Wimbish Napier.....	Lee.
Walter Cornelius Oneal.....	Sumter.
Walter Gardner Pitts... ..	Russell.
James Robert Philips.	Calhoun.
Joseph William Powers.....	Madison.
Albert Wellman Pratt	Madison.
James Henry Randle.....	Bullock.
Samuel Rembert.....	Tennessee.
Roy Gustavus Rhodes.....	Marengo.
George Washington Smith.....	Lee.

Nelson Horatio Romero	Cuba.
Sloss Smith	Jefferson.
Earnest Percy Thompson	Lee.
James Feagin Tompkins	Lee.
Filo Harrison Turner	Florida.
Horace Sanford Turner	Mobile.
Fletcher Pavey Whatley	Montgomery.
Forney Renfro Wright	Lee.
Samuel James Wisdom	Montgomery.

SUMMARY.

Graduates	18
Senior Class	46
Junior Class	63
Sophomore Class	72
Freshman Class	62
Special and Irregular Students	57
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Total in College Classes	318
Sub-Freshman Class	38
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Total	356

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	254	Geology	42
History	181	Civil Engineering	9
French	39	Electrical Engineering ..	47
German	37	Mechanical Engineering ..	45
Latin	157	Biology	18
Mental Science	24	Drawing	174
Political Economy	35	Mechanic Arts	219
Mathematics	266	Military Tactics	301
Chemistry	160	Mineralogy	8
Chemical Laboratory ...	73	Physical Laboratory ...	62
Agriculture	108	Physiology	70
Physics.	133	Veterinary Science	35
Botany	98	Pharmacy	31
		Bacteriology	10

MILITARY ORGANIZATION.

1898-99.

President,

W. L. BROUN.

Commandant,

COL. B. S. PATRICK.

Surgeon,

J. H. DRAKE.

Battalion Staff.

Cadet Captain I. F. McDONNELL, Assistant to Commandant.

Cadet 1st Lieutenant T. G. BUSH, Adjutant.

Cadet 1st Lieutenant A. H. FEAGIN, Quartermaster.

Cadet Sergeant H. P. POWELL, Sergeant Major.

Cadet Sergeant J. L. BURKE, Sergeant Major.

Cadet Sergeant J. W. SHUFF, Quartermaster Sergeant.

Cadet Captains.

- | | |
|---------------------|-----------------|
| 1. I. F. McDONNELL, | 3. T. W. WERT, |
| 2. J. F. DOBBIN, | 4. C. W. MINGE. |

Cadet First Lieutenants.

- | | |
|--------------------|-------------------|
| 1. B. DAVIS, | 5. J. A. WARD, |
| 2. J. M. ATKINSON, | 6. B. E. BROWN, |
| 3. A. M. BOYD, | 7. D. TURNER, |
| 4. J. R. PEABODY, | 8. W. O. SCROGGS. |

Cadet Second Lieutenants.

- | | |
|----------------|---------------------|
| 1. H. A. MOON, | 2. J. S. GILLILAND. |
|----------------|---------------------|

Cadet First Sergeants.

- | | |
|-----------------|------------------|
| 1. E. H. FOY, | 3. G. F. BOYD, |
| 2. F. ASHCRAFT, | 4. W. E. KELLEY. |

Cadet Sergeants.

- | | |
|----------------------------------|---------------------|
| 1. K. B. MCKENZIE, | 10. J. W. BOYD, |
| 2. J. J. FLOWERS, | 11. L. N. DUNCAN, |
| 3. R. P. BALDWIN, | 12. J. S. BLACK, |
| 4. J. P. ILLGES, | 13. C. W. NIXON, |
| 5. A. C. CAMERON, | 14. W. L. ANDERSON, |
| 6. J. H. MCGEHEE, | 15. H. WARE, |
| 7. R. B. HALL, (Color Sergeant), | 16. S. D. GILBERT, |
| 8. S. G. FORBES, | 17. E. M. MASON. |
| 9. M. F. KAHN, | |

Cadet Corporals.

- | | |
|-------------------|------------------------|
| 1. J. D. FOY, | 10. G. WHITFIELD, |
| 2. S. H. ROBERTS, | 11. A. H. MITCHELL, |
| 3. A. F. JACKSON, | 12. W. B. MCGEEHEE, |
| 4. M. S. SLOAN, | 13. J. B. POWELL, |
| 5. E. H. WILLS, | 14. W. L. GREENE, |
| 6. A. C. HANNON, | 15. P. S. HALEY, |
| 7. M. H. MOORE, | 16. M. C. TURPIN, |
| 8. H. A. SKEGGS, | 17. B. B. MERRIWETHER. |
| 9. O. B. ANDREWS. | |

Cadet Band.

M. THOS. FULLAN, Chief Musician.

A. M. BOYD, Principal Musician.

- | | |
|----------------|------------------|
| J. A. WARD, | W. A. FRAZER, |
| C. L. BRAGAW, | J. A. LANFORD, |
| W. A. DEWEES, | W. L. BRYANT, |
| W. J. CAMERON, | E. H. WILLS, |
| F. C. BIVINGS, | M. D. KAHN, |
| M. F. KAHN, | R. C. ARMSTRONG. |

J. O. RUSH, Drum Major.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable dismissal.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects :

1. Geography, and History of the United States.

2. English—(a) An examination upon sentences containing incorrect English. (b) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading*. The composition in 1899 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby*; (2) Southey's *Life of Nelson*; (3) Shakespeare's *Julius Cæsar*; (4) Longfellow's *Evangeline*; (5) Scott's *Ivanhoe*; (6) Shakespeare's *Merchant of Venice*; (7) Irving's *Sketch Book*; (8) Macaulay's *Essay on Milton*; (9) Scott's *Marmion*; (10) Dickens's *David Copperfield*.

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended to test only a general knowledge of the substance of the books.

(b) *Study and Practice*. This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Cæsar* and the *Essay on Milton*.

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions;

denominate numbers; the metric system; percentage, including interest and discount; proportion; extraction of square and cube roots. (b) Algebra to quadratic equations, one book of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Cæsar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father*, *ā* as the *a* in *Cuba*; *ē* as in *prey*, *ē* as in *men*; *ī* as in *machine*, *ī* as in *cigar*; *ō* as in *old*, *ō* as in *obey*; *ū* as in *rule*, *ū* as in *full*; *j* as *y* in *yard*; *c* always as *k* in *king*; *g* always as *g* in *get*.

For admission to the higher classes, students should be prepared to stand a satisfactory examination in all of the studies of the lower classes, as shown in the courses of study. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on those subjects.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the freshman class *without examination* upon the certificate of the president or principal showing definitely that such students have completed satisfactorily all the studies required for admission, as stated in the catalogue, and are otherwise admissible."

The privilege of admitting students to the Sophomore class on

certificate will be granted only to those approved schools that have had a continuous existence for five years or more, and have previously had pupils admitted to that class without conditions.

The following form of Certificate will be used :

I hereby certify that A....., B..... has attended the
(*name the school or academy*) foryears and has studied
the following subjects :

in History (*name the books*)
in English (" " ")
in Algebra (*state amount accomplished*)
in Geometry.....(" " ")
in Latin (*state books read*)
and having passed a satisfactory examination on these subjects as
required in the Catalogue for admission to the.....class,
I recommend him for the same.

CERTIFICATE SCHOOLS.

University Military School, Mobile J. D. Wright.
Verner Military Institute, Tuscaloosa W. H. Verner.
University School, Montgomery J. M. Starke.
Mt. Willing High School, Mt. Willing J. D. Garrett.
State Normal School, Jacksonville..... J. Forney.
Male Academy, Huntsville Puryear & Wyatt.
State Normal College, Florence M. C. Wilson.
Furman Academy, Livingston..... L. A. Cockrell.
High School, Opelika..... J. M. Smallwood.
Union Springs Institute J. B. Murphy.
University Military School, Clanton..... E. Y. McMorries.
N. A. Agricultural School, Athens..... M. K. Clements.
W. Ala. Agricultural School, Hamilton..... S. T. Slaton.
Eutaw Male Academy, Eutaw..... H. C. Horton.
Boys' High School, Anniston..... H. C. Gunnels.
Taylors' School, Birmingham W. P. Taylor.
Gaylesville High School..... John L. Ray.
Carrollton Academy..... L. V. Rosser.
Ninth District Agricultural School, Blountsville. W. J. Beeson.
Gadsden High School..... I. W. Hill.
Boyd High School, Ramer..... B. H. Boyd.
Dadeville High School..... A. W. Holstun and
J. D. Lane.
Eufaula High School... F. L. McCoy.
Union Springs College..... J. M. Sanders.
Montgomery High School C. L. Floyd.
Calera Academy..... C. C. Slaton.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this College is granted by the Trustees to young women of mature mind and character, on the following conditions :

The applicant must be eighteen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects as named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Gung's Outlines of Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 32.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Analytic Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translation of selections from Cæsar Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books may be substituted.

Botany will constitute a required part of the general course for young women who are candidates for a degree.

When admitted, upon complying with the conditions above stated, they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found, qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

The Trustees authorize the Faculty to admit a candidate for a degree at the age of seventeen, provided she is able to comply with all the requirements for admission in the four subjects named and the application meets with its approval.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 13th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department.

They will be advanced to full admission to the Freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing, and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents. The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified; and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may be qualified.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty,

who will act as his special adviser, and when his course of study has been approved by the Faculty no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become special students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, English, mathematics, or Latin, and if his examination is satisfactory in any subject, he will be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science; Pharmacy; English, French, German, and Latin languages; History, Political Economy; Mental and Moral Sciences.

These studies are arranged in regular courses so as to offer a liberal and practical education as a preparation for the active pursuits of life.

There are five degree courses for undergraduates, each

leading to the degree of Bachelor of Science, (B. Sc.) and requiring four years for its completion.

- I. COURSE IN CHEMISTRY AND AGRICULTURE.
- II. COURSE IN CIVIL ENGINEERING.
- III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.
- IV. GENERAL COURSE.
- V. COURSE IN PHARMACY.

There are also two partial courses, each requiring two years for its completion :

- VI. TWO-YEAR COURSE IN AGRICULTURE.
- VII. TWO-YEAR COURSE IN MECHANIC ARTS.

Course I includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II includes the principles and applications of the sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V includes, besides the general education of course IV in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Courses VI and VII have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second *term* of the Senior year.

Declamation and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

The post-graduate degrees are—MASTER OF SCIENCE, MINING ENGINEER, CIVIL ENGINEER, ELECTRICAL AND MECHANICAL ENGINEER AND PHARMACEUTICAL CHEMIST.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination at the close of each term on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for ap-

proval prior to January 1st, and the thesis given to the professor by April 1st.

Applicants for post-graduate degrees are subject to the general regulations as other students, but are exempt from all military duty.

Resident graduates that are not candidates for a degree, are permitted to matriculate and prosecute the studies in any department of the College.

The following courses are prescribed for the degrees named :

Mining Engineer.—Students who have received the degree of B. Sc. in engineering, civil, or electrical and mechanical, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study :

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the applications of steam and electricity to the various operations connected with the exploitation of mines

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated.

This course of study will be under the charge of the professors of geology, chemistry, civil, electrical and mechanical engineering.

Civil Engineer.—Civil Engineering, Mathematics, Analytical Mechanics.

Electrical and Mechanical Engineer.—Electrical Engineering, Mechanical Engineering.

Pharmaceutical Chemist.—Pharmacy and Chemistry.

Master of Science.—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his entire time to work in one department.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field,

stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

PHOTOGRAPHY.

During the session there will be given by Professor Mell a course of twelve lectures on photography. This course will be elective, and the instruction will be open to any student that may desire to learn how to make pictures. It will be necessary for each student to provide himself with an outfit that will cost from \$11.50 to \$16.00.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

- I. CHEMISTRY.
- II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.
- III. AGRICULTURE.
- IV. BOTANY.
- V. MINERALOGY.
- VI. BIOLOGY.
- VII. TECHNICAL DRAWING.
- VIII. MECHANIC ARTS.
- IX. PHYSICS.
- X. ELECTRICAL ENGINEERING.
- XI. MECHANICAL ENGINEERING.
- XII. PHYSIOLOGY AND VETERINARY SCIENCE.
- XIII. PHARMACY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball, and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty, in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using, or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game, to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week, and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the Senior class are exempt.

The drills are short, and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This Association is regularly organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the Association when they enter the Institute.

The ladies of the different churches in Auburn, have recently formed an Auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the College chapel and will provide special lecturers for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

J. M. ATKINSON, President.

CHAS. WHITE, Vice-President.

A. F. JACKSON, Treasurer.

J. R. RUTLAND, Corresponding Secretary.

H. H. CORY, Recording Secretary.

M. A. BEESON, Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide water. By statute of the State, the sale of spirituous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

I.—COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
4. Botany (Lab'y).	4. Botany (Lab'y).	4. Botany (Lab'y).
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Lab'y.	2. Clinical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature.	2. Political Economy (c).	2. Political Economy.
2. Mental Science (d).	2. Mental Science (d).	2. Mental Science (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
5. Biology.	5. Biology.	5. Biology.
2. Agricultur'l Ch'm'try	2. Agricultur'l Ch'm'try.	2. Agricultur'l Ch'm'try.
1. Military Science.	1. Military Science.	2. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
2. Veterinary Science.	1. Veterinary Science.	2. Veterinary Science
2. Clinical Lab'y.	2. Clinical Lab'y.	2. Clinical Lab'y.

(a) Begins March 1st.

(c) Begins Feb. 15th.

(b) Also Practical Agriculture.

(d) German may be substituted.

II.—COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

*First Term.**Second Term.**Third Term.*

- | | | |
|------------------------|------------------------|------------------------|
| 5. English. | 5. English. | 5. English. |
| 2. History. | 2. History. | 3. History. |
| 5. Mathematics. | 5. Mathematics. | 5. Mathematics. |
| 3. Elementary Physics. | 3. Elementary Physics. | 2. Agriculture. |
| 3. Drawing. | 3. Drawing. | 3. Drawing. |
| 6. Mechanic Art Lab'y. | 6. Mechanic Art Lab'y. | 6. Mechanic Art Lab'y. |
| 3. Military Drill. | 3. Military Drill. | 3. Military Drill. |

SOPHOMORE CLASS.

*First Term.**Second Term.**Third Term.*

- | | | |
|------------------------|------------------------|------------------------|
| 3. English. | 3. English. | 3. English. |
| 3. History. | 3. History. | 3. Botany (a). |
| 5. Mathematics. | 5. Mathematics. | 5. Mathematics. |
| 3. General Chemistry. | 3. General Chemistry. | 3. General Chemistry. |
| 2. Agriculture (b). | 2. Agriculture (b). | 2. Agriculture (b). |
| 2. Physiology. | 2. Physiology. | 2. Physiology. |
| 3. Drawing. | 3. Drawing. | 3. Drawing. |
| 6. Mechanic Art Lab'y. | 6. Mechanic Art Lab'y. | 6. Mechanic Art Lab'y. |
| 2. Chemical Lab'y. | 2. Chemical Lab'y. | 2. Chemical Lab'y. |
| 3. Military Drill. | 3. Military Drill. | 3. Military Drill. |

JUNIOR CLASS.

*First Term.**Second Term.**Third Term.*

- | | | |
|--------------------------------|--------------------------------|--------------------------------|
| 3. English, French, or German. | 3. English, French, or German. | 3. English, French, or German. |
| 3. Physics. | 3. Physics. | 3. Physics. |
| 5. Mathematics. | 5. Mathematics. | 5. Mathematics. |
| 5. Civil Engineering. | 5. Civil Engineering. | 5. Civil Engineering. |
| 5. Drawing. | 5. Drawing. | 5. Drawing. |
| 1. Military Tactics. | 1. Military Tactics. | 1. Military Tactics. |
| 6. Lab'y, Mech. Arts (c). | 6. Lab'y, Mech. Arts (c). | 6. Lab'y, Mech. Arts (c). |
| 1. Field Work, Engin'g. | 2. Field Work, Engin'g. | 2. Field Work, Engin'g. |
| 3. Military Drill. | 3. Military Drill. | 3. Military Drill. |

SENIOR CLASS.

*First Term.**Second Term.**Third Term.*

- | | | |
|---------------------------|---------------------------|---------------------------|
| 2. English Literature(d). | 2. Political Economy (d). | 2. Political Economy (d). |
| 2. Physics. | 2. Astronomy. | 2. Astronomy. |
| 2. Geology. | 2. Geology. | 2. Geology. |
| 3. Mathematics | 3. Mathematics. | 3. Mathematics. |

(a) Begins March 1st.

(b) For Agriculture may be substituted Physical Laboratory.

(c) Or Mineralogy.

(d) For Eng. Lit. and Pol. Econ. may be substituted French or German.

5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science	1. Military Science.	1. Military Science.
4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.
Field Work, Engin'g.	Field Work, Engin'g.	Field Work, Engin'g.

III.—COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week. In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engin'g.	4. Electrical Engin'g.	4. Electrical Engin'g.
3. Mech. Engineering.	3. Mech. Engineering.	3. Mech. Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. Eng. Literature (a).	2. Political Economy (a).	2. Political Economy (a).
2. Physics.	2. Astronomy.	2. Astronomy,
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engin'g.	5. Electrical Engin'g.	5. Electrical Engin'g.
5. Mech. Engineering.	5. Mech. Engineering.	5. Mech. Engineering.
2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV.—GENERAL COURSE.

The numerals opposite the subjects indicate the numbers of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
5. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Arts.
		3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y Work (b).	6. Lab'y Work (b).	6. Lab'y Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature.	2. Political Economy (c).	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y Work (b).	6. Lab'y Work (b).	6. Lab'y Work (b).

(a) Begins March 1st.

(b) The student may elect the laboratory of any department for which he may be qualified.

(c) Begins February 15th.

V.—COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
5. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mech. Art Lab'y.	6. Mech. Art. Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Arts.
		3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany. (a)
5. Mathematics.	5. Mathematics.	5. Mathematics.
8. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
3. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. Physics.	3. Physics.	3. Physics.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
9. Pharmaceutical Lab.	9. Pharmaceutical Lab.	9. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Biology.	5. Biology.	5. Biology.
7. Toxicology.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Pharmacy.	4. Pharmacy.	4. Pharmacy.
9. Pharmaceutical Lab.	9. Pharmaceutical Lab.	9. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Science.	1. Military Science.	1. Military Science.
3. Materia Medica.	3. Materia Medica.	3. Bacteriology.

(a) Begins March 1st.

VI—TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

First Term.

- 5. English.
- 2. History.
- 5. Mathematics.
- 3. Elementary Physics.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 3. Military Drill.

Second Term.

- 5. English.
- 2. History.
- 5. Mathematics.
- 3. Elementary Physics.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 3. Military Drill.

Third Term.

- 5. English.
- 3. History.
- 5. Mathematicæ.
- 2. Agriculture.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 3. Military Drill.

SECOND YEAR.

First Term.

- 3. English.
- 5. Mathematics.
- 3. Physics.
- 3. Drawing.
- 12. Mechanic Art Lab'y.
- 3. Military Drill.

Second Term.

- 3. English.
- 5. Mathematics.
- 3. Physics.
- 5. Drawing.
- 12. Mechanic Art Lab'y.
- 3. Military Drill.

Third Term.

- 3. English.
- 5. Mathematics.
- 3. Physics.
- 3. Drawing.
- 12. Mechanic Art Lab'y.
- 3. Military Drill.

VII—TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.

- 5. English.
- 2. History.
- 5. Mathematics.
- 3. Elementary Physics.
- 3. Drawing.
- 4. Mechanic Art Lab'y.
- 3. Military Drill.
- 2. Practical Agricult're.

Second Term.

- 5. English.
- 2. History.
- 5. Mathematics.
- 3. Elementary Physics.
- 3. Drawing.
- 4. Mechanic Art Lab'y.
- 3. Military Drill.
- 2. Practical Agricult're.

Third Term.

- 5. English.
- 3. History.
- 5. Mathematics.
- 2. Agriculture.
- 3. Drawing.
- 4. Mechanic Art Lab'y.
- 3. Military Drill.
- 2. Practical Agricult're.

SECOND YEAR.

First Term.

- 3. English.
- 5. Mathematics.
- 3. General Chemistry.
- 4. Agriculture.
- 2. Physiology.
- 2. Veterinary Science.
- 12. Practical Agricult're.
- 3. Military Drill.

Second Term.

- 3. English.
- 5. Mathematics.
- 3. General Chemistry.
- 4. Agriculture.
- 2. Physiology.
- 2. Veterinary Science.
- 12. Practical Agricult're.
- 3. Military Drill.

Third Term.

- 3. English.
- 5. Mathematics.
- 3. General Chemistry,
- 4. Agriculture.
- 2. Physiology.
- 2. Veterinary Science.
- 12. Practical Agricult're.
- 3. Military Drill.

SCHEDULE OF EXERCISES.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
I. 8-9	4. Algebra. 3. Latin. 1. and 2 Drawing. 1. Elec Engine'r'g 2. Mec Engine'r'g 1. Biology. 1. German.	3. Physiology. 4. Geometry. 3. Latin. 2. German. 1. and 2 Drawing. 2. Botany. 1. Elec Engine'r'g 2. Mec Engine'r'g 1. Mental Science.	4. Algebra. 3. Latin. 1. and 2 Drawing 1. Vet. Science. 1. Elec Engine'r'g 1. German.	4. Geometry. 3. Latin. 2. German. 1. and 2 Drawing. 2. Botany. 1. Mental Science 1. Elec Engine'r'g	4. Algebra. 3. Latin. 1. and 2 Drawing. 1. Veterinary Sci. 1. Elec Engine'r'g 1. German.	Exercises in Elocut'n.
II. 9-10	4. English. 3. Chemistry. 2. Civ. Engine'r'g 2. Latin. 1. Calculus. 1. Biology. 2. Elec Engine'r'g	4. History. 3. Agriculture. 2. Civ. Engine'r'g 2. Botany. 1. Physics. 2. Elec Engine'r'g	4. English. 3. Chemistry. 2. Civ. Engine'r'g 2. Latin. 1. Calculus. 2. Vet. Science. 2. Elec Engine'r'g	4. History. 3. Agriculture. 2. Civ. Engine'r'g 2. Botany. 1. Physics. 2. Elec Engine'r'g	4. English. 3. Chemistry. 2. Civ. Engine'r'g 2. Latin. 1. Calculus. 2. Mech. Engin'r'g 2. Vet. Science.	Military Drill.
III. 10-11	3. English. 2. Physics. 1. Civ. Engine'r'g 1. Biology. 1. Latin. 1. Mec Engine'r'g	3. History (1, 2). 3. Botany (2, 3). 1. Biology. 1. Civ. Engine'r'g 4. English. 1. Mec Engine'r'g 2. French. 2. Mec. Drawing.	3. English. 2. Physics. 1. Latin. 1. Civ. Engine'r'g 1. Biology. 1. Mec Engine'r'g	3. History (1, 2). 3. Botany (2, 3). 1. Civ. Engine'r'g 1. Mech Engin'r'g 2. French.	3. English. 2. Physics. 1. Civ. Engineer'g. 4. History. (3). 1. Mech. Engin'r'g	Mechanic Arts. Chemical Laboratory. Electric Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.

SCHEDULE OF EXERCISES—Continued.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
IV.	4. Physics (1, 2).	4. Latin. 3. Drawing.	4. Physics (1, 2). 4. Latin (3). 3. History (1, 2). 2. Botany (2, 3). 2. Mathematics. 1. Chemistry. 1. French.	4. Latin. 2. Agriculture. 2. Mathematics. 1. Chemistry. 3. Physiology. 1. French.	4. Physics (1, 2). 4. Agriculture (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
11-12	4. Agriculture (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry. 1. Pol. Econ. (2, 3). 4. Mechanic Arts.	2. Agriculture. 2. Mathematics. 1. Chemistry. 1. French.	4. Physics (1, 2). 4. Latin (3). 3. History (1, 2). 2. Botany (2, 3). 2. Mathematics. 1. Chemistry. 1. English (1, 2). 1. Political Economy (2, 3). 4. Mechanic Arts	4. Latin. 2. Agriculture. 2. Mathematics. 1. Chemistry. 3. Physiology. 1. French.	4. Physics (1, 2). 4. Agriculture (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
V.	4. Drawing. 3. Mathematics. 2. English. 4. Mechanic Arts. 1. Elec. Design'g. 1. French.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts. 1. Elec. Design'g. 2. Military Tactics.	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
12-1	4. Drawing. 3. Mathematics. 2. English. 4. Mechanic Arts. 1. Elec. Design'g. 1. French.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts. 1. Elec. Design'g. 2. Military Tactics.	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
P.M.	4. Mechanic Arts.	3. Mechanic Arts. 2. Mineralogical Laboratory.	4. Mechanic Arts	3. Mechanic Arts 2. Mineralogical Laboratory	4 Mechanic Arts	4 Mechanic Arts
VI, VII.	3. Field Work Agr. 1 & 2 Laboratory Chemistry.	3. Field Work Agr. 1 & 2 Laboratory Chem	3. Field Work Agr. 1 & 2 Laboratory Chem	3. Field Work Agr. 1 & 2 Laboratory Chem	3. Field Work Agr. 2 French. 1 & 2 Lab. Chem	3. Field Work Agr. 2 French. 1 & 2 Lab. Chem
2-4	1 & 2 Field Work. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work Elec. Lab. Work. Physical Labor'y.	Military Drill (*). 1. Mech. Lab'tory. Elec. Lab'y Work. 1 and 2 History.	1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Labor'y.	Military Drill (*) 1. Mech. Lab'ory. Elec. Lab'y Work 1 and History.	1 & 2 Field W'rk, Engineering. 1 & 2 Mach. W'sk. Ex'cis in Elocut'n Elec Lab Work Physical Labor'y.	1 & 2 Field W'rk, Engineering. 1 & 2 Mach. W'sk. Ex'cis in Elocut'n Elec Lab Work Physical Labor'y.

Chapel services daily at 7:45 a. m.

Numbers prefixed denote classes—1 denotes senior, 2 junior, etc. Numbers affixed—(1), (2), (3),—denote terms.

*From 4:30 to 5:30 p. m.

DEPARTMENTS OF INSTRUCTION.

PHYSICS AND ASTRONOMY.

PRESIDENT BROUN.

PROFESSOR MCKISSICK.

The instruction is given by recitations from text-books and lectures, illustrated by experiments. The first part of the course is occupied with elementary rational mechanics, treated graphically.

This is followed by a full discussion of molecular mechanics; while due prominence is given to principles, frequent reference is made to the applications of science.

The studies of the junior class include the properties of matter, units of measure, force, work, energy, kinematics, kinetics, mechanic powers, friction, pendulum, molecular forces of solids, liquids and gases, theory of undulations, heat, electricity, magnetism, etc.

The studies of the senior class include light, and astronomy.

Post-graduate Course. This includes the study of analytical mechanics, and requires a knowledge of differential and integral calculus.

TEXT-BOOKS.

Atkinson's Ganot's Physics, Young's Astronomy, Berry's History of Astronomy, Bowser's Analytic Mechanics.

PHYSICAL LABORATORY.

INSTRUCTOR H. H. KYSER.

The laboratory work includes courses for the sophomore and freshman classes, and is so arranged as to begin with a study of the systems and units of measurements and to conclude with simple experiments in heat.

The student is required to ascertain experimentally various physical laws, hence in all exercises there is something to measure. From these measurements he is required to find the law connecting the quantities involved. Results of experiments are to be entered, in tabular form, together with methods, diagrams, etc., in a laboratory record-book, which each student is required to prepare. At the close of each week this book is criticised and graded according to its accuracy and neatness.

FRESHMAN COURSE.

First Term. (a) Elementary physics (mechanics and heat).

Second Term. (b) Elementary graphical statics (continued in sophomore year).

Third Term. (c) Systems and units of measurements.

(d) Simple measurements of length, surface, volume and weight.

SOPHOMORE COURSE.

First Term. (a) Simple measurements and designing verniers and micrometers.

(b) Elementary graphical statics (c) Forces, moments and work
Second Term. (d) Simple machines and friction (determining mechanical advantages, loss, efficiency, law, etc.).

(e) Pendulum and gravity. (f) Elasticity.

Third Term. (g) Liquids. (h) Density and specific gravity. (i) Gases. (j) Heat.

The laboratory is equipped with instruments of foreign and American manufacture, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and with all apparatus necessary to perform from 10 to 20 experiments under each of the above named groups.

MATHEMATICS.

PROFESSOR SMITH.

The general course for the first two years embraces the *first year*, algebra, through logarithms, and geometry, six books; *second year*, algebra, solid geometry, plane and spherical trigonometry, surveying, mensuration.

Two objects are sought to be attained: first, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in farm, town and government land surveying, dividing land, mapping, plotting, and computing areas, etc.; also in the theory, adjustment and use of instruments.

The class in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

Mensuration includes an extended course in measurements of heights and distances, plane, rectilinear, and curvilinear figures, surfaces and volumes.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytical geometry, descriptive geometry, and calculus are pursued in the mechanical and engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of the principles and formulas.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry and Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Nicholson's Calculus, Johnson's Differential Equations, Osborne's problems, Peck's Determinants.

GEOLOGY AND BOTANY.

PROFESSOR MELL.

Geology.—This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other



BOTANICAL LABORATORY.

natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

There is also a course of advanced work in practical geology for post-graduate students. This subject is pursued by applicants for the degrees of master of science and mining engineer.

The junior class in civil engineering studies mineralogy through the entire session. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical constants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

Botany.—The students of the sophomore class begin the study of botany the first of March, and continue it through the session. Analytical work is made an important feature. This class is provided with plants from the fields, and taught how to determine their specific names. The work is sufficiently exhaustive to enable the student, after completing the course, to name any of the ordinary weeds and grasses that he will encounter in this section.

In the junior class, in the course of chemistry and agriculture, two terms are devoted to systematic and structural botany, and to advanced laboratory work with the microscope in the preparation of specimens showing plant structure; this work is sufficient to familiarize the students with the methods of plant building and cellular organization. Excellent microscopes of the most improved patterns, and all necessary chemicals and apparatus for preparing and mounting vegetable tissues, are used by the students.

The third term is devoted to the study of the physiol-

ogy of plants in order to understand the functions of the various organs after completion of the work in the histological laboratory.

FACILITIES FOR WORK.

Geology.—The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals for teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern complete, with oil, oxy-hydrogen and automatic electric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals; and models of crystals.

Botany.—The facilities for teaching this subject are as follows; Auzoux's elastic models of seeds and flowers; a large collection of pressed plants of Alabama and other sections mounted and catalogued. There is also a laboratory for practical work in botany equipped with slate-topped tables for twenty students; dissecting and compound microscopes by Zeiss, Leitz, and Bausch & Lomb; projection microscopic apparatus; microtomes by King and Bausch & Lomb; all the necessary glass ware and smaller dissecting instruments required in a well equipped laboratory. The Zeiss compound microscope used by the professor for experiment work in connection with the station is supplied with Abbe's illuminating apparatus, slide changers, Abbe's camera lucida, polarizers, apochromatic objectives (16 mm, 8 mm, 4 mm, and homogeneous immersion), oculars (2, 3, 8, 12, 18,) and photographic eye-piece with micrometer. This laboratory is well lighted with gas and electricity and with a good exposure for ample sunlight.

In connection with the department there is a photographic dark room and an excellent photographic outfit, consisting of cameras varying in size from 4 x 5 to 6½ x 8½ inches; Bausch & Lomb's professional photo-micro camera extending to eight feet; Zeiss's anastigmat photographic lens, 6½ x 8½, fitted with Bausch & Lomb's diaphragm shutter, and Zeiss's wide angle lens, 6½ x 8½, all mounted in aluminum; Clark's lens fitted with diaphragm shutter; Darlot lens, 4 x 5; the accessory apparatus and chemicals required for first class work in photography.

The students have access to the botanical garden where experiments in grass culture and many other plants of interest to the farmer are conducted by the professor.

TEXT-BOOKS

LeConte's Geology, Williams's Practical Geology, Tarr's Economic Geology, Dana's Mineralogy, Gray's Botany, Nelson's Herbarium and Plant Descriptions, Laboratory Guide, and notes of lectures.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

CIVIL ENGINEERING

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows :

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention will be paid in this class to the location, construction, drainage and maintenance of country roads ; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber ; classification and description of natural building stones ; bricks and concretes ; cast and wrought iron, steel and other metals ; limes, cements, mortars and their manufacture ; paints and other preservatives ; classification of strains and a general mathematical discussion of same ; joints and fastenings ; solid and open built beams ; classification, construction and mechanics of masonry ; foundations on land and in water ; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically ; common roads, their coverings, location and construction of railroads ; navigable, irrigation and drainage canals ; River and sea-coast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class.—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear and free-hand drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue prints. The senior class makes topographical drawings, and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class.—Kitchener's Geometrical Note Book, Thorne's Junior Course in Mechanical Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Plates belonging to the College, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

ENGLISH AND POLITICAL ECONOMY.

PROFESSOR THACH.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge ; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course of English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings, themselves, of leading English authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 32.

For requirements as to thesis and as to proficiency in English for certificates and degrees see page 39.

Declamation and themes (or orations) are required of *all regular* students. For details see below.

COURSE OF STUDY.

Freshman Class.—Five hours a week ; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied ; study of American authors: Irving Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class.—Three hours a week ; study of style, analysis of selections of prose and poetry, frequent essays on historic and literary themes.

Carpenter's Rhetoric, Gerung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class.—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Palgrave's Golden Treasury; Macaulay, Carlyle, DeQuincey, etc.

Senior Class.—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers, illustrative of the subject matter of the text-books, set themes or orations are *required of all students*:—For the freshman class, *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study hall before the body of students.

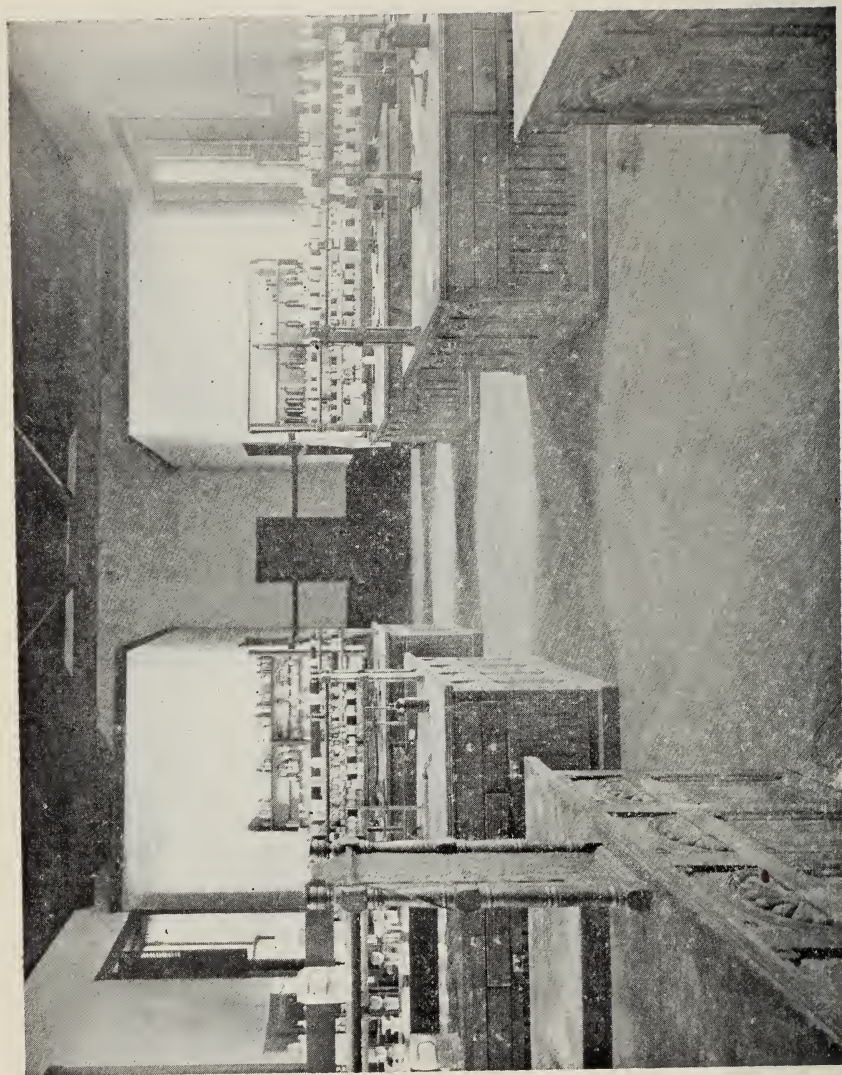
The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The entire senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science.—Psychology defined. Value in relation to moral culture, education, and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy.—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; co-operation; *money*; *credit*; functions of government; *taxation*; tariff; education, etc. *Lectures by Professor.*



CHEMICAL LABORATORY (INTERIOR).

A *Post-graduate Course* has also been established in English. The following courses have been given:

(1) *Shakespeare*.—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV, Part I. Richard III, King John.

(2) *Dryden*—*Poetical Works* (Christie); *Essay of Dramatic Poesy* (Thomas Arnold); *Essay on Satire*, etc., (Yonge); *Saintsbury's Life of Dryden*.

Pope—*Poetical Works* (Ward); *Satires* (Pattison); *Stephen's Life of Pope*, *Gosse's From Shakespeare to Pope and 18th Century Literature*.

(3) *English Literature of the Eighteenth Century*: Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

CHEMISTRY.

PROFESSOR B. B. ROSS.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial chemistry.
2. A course of lectures in agricultural chemistry.
4. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures on industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the reduction of ores, the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

REFERENCE BOOKS.

Wagner's Chemical Technology, Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Percy's Metallurgy, Sadtler's Industrial Organic Chemistry.

3. Course in agricultural chemistry: This consists of lectures on chemistry in its applications to agriculture (two per week), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

4. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures, and embraces the practical operations of chemical analysis and synthesis, being varied somewhat to suit the individual object of the student.

The laboratories which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation, in the qualitative and quantitative analysis of soils, fertilizers, feed stuffs, sugar products, minerals, mineral waters, technical products, etc., and in the method of prosecuting chemical researches. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles, and the common reagents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the analytical work above described, it is designed to give during the session a short course in electro-plating. Practical instruction in the electro-deposition of nickel, silver, gold, etc., upon other metals will be given, and, in addition, the application of electrolysis to chemical analysis will be studied both theoretically and practically.

BOOKS USED.

In qualitative analysis—Jones's Fresenius Plattner.

In quantitative analysis—Fresenius, Sutton, Rose, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 14.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually

supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, four short-arm Becker balances of latest pattern, Bunsen spectroscope, Zeiss microscope, and other instruments for delicate and accurate work.

HISTORY AND LATIN.

PROFESSOR PETRIE.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Constant practice in map drawing is insisted on in order to give precision to the geographical knowledge acquired. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States, the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history..

In the junior and senior classes opportunity for special historical work is given to those students of the general course who may elect it instead of laboratory work. The work in 1899-1900 will be in American and English history, social, political and constitutional.

The work will be partly by lectures; but students will also investigate in the library, under the direction of the professor, topics connected with the lectures and will report to the class the results of their research. These reports will be made the basis of general discussion. A series of lectures will be given from time to time on current foreign events, and on important points in recent history.

TEXT-BOOKS.

Freshman Class.—Cooper, Estill & Lemmon's History of the United States, Thorpe & McCorvey's Civil Government in the United States and Alabama, Montgomery's English History.

Sophomore class.—Myers's General History.

Junior and Senior classes.—Hart's Formation of the Union, Woodrow Wilson's Division and Reunion, Green's History of England.

LATIN.

The objects kept in view in this department are: an accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put into Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

For the benefit of students who do not study the Latin language a series of popular lectures will be given upon the great Latin writers. Especial emphasis is laid on proficiency in writing Latin exercises and in translating Latin prose at sight.

TEXT-BOOKS.

Freshman's Class.—Grammar, Exercises, Nepos, Sallust.

Sophomore Class.—Cicero, Allen & Greenough's Grammar, Exercises.

Junior Class.—Virgil, Horace, A. & G.'s Grammar, Exercises, Allen's History of Rome, Wilkins' Roman Antiquities.

Senior Class.—Livy, Tacitus, Wilkins's Latin Literature, Exercises.

MODERN LANGUAGES.

PROFESSOR C. H. ROSS.

The following regular courses are given in French and German :

French—First Year : Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year : Three recitations a week. During this year almost the same line of work is pursued as that begun in the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years : Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

TEXT-BOOKS.

FRENCH—*First Year* : French Principia, Pts. I & II ; Jules Verne's Michel Strogoff, Rogers's Sight Reading in French.

Second Year : Feuillet's Le Roman d'un Jeune Homme Pauvre, Dumas' La Tulipe Noire ; French Composition.

GERMAN—*First Year* : Harris's German Lessons ; Super's Elementary German Reader, Zschokke's Der Zerbrochene Krug.

Second Year : Schiller's Ballads, Hauff's Das Kalte Herz ; Bernhardt's German Composition.



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ELECTRICAL BUILDING.

ELECTRICAL ENGINEERING.

PROFESSOR MCKISSICK.

The students in this course will study English, French, or German, physics, mathematics, etc., as now prescribed for the course of civil engineering in the junior and senior years; and, in addition thereto, will prosecute their studies in electricity and mechanics, as herein prescribed.

JUNIOR YEAR.

Four hours a week for the entire session are devoted to the studies of the principles of electricity and magnetism. The student is made familiar with the theoretical principles by experiments, illustrations, recitations, and lectures.

LABORATORY WORK.—Four hours per week are given to work in the laboratory. This includes management of batteries, construction of instruments, electro-plating, electrical measurements, verification of the principles upon which the measurements of current, electromotive force and resistance are based, etc.

TEXT-BOOKS.

Ayrton's Practical Electricity, Stewart and Gee's Practical Physics, Nichol's Laboratory Manual, Vol. I.

SENIOR YEAR.

In the senior year five hours per week are devoted to theoretical instruction in electricity and magnetism, supplemented by a course of lectures and practical demonstration on the applications of electricity to lighting, electric railways, electrical transmission of energy, poly-phase currents, electrical welding, etc.

Encouragement is offered to advanced students for conducting original investigations, and opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students in connection with their experimental work.

LABORATORY WORK.—Six hours per week are devoted to practical laboratory work, electrical measurements, relation of electrical currents to heat and mechanical work, care and tests of dynamo and motors, calibration of voltmeters, ammeters and watt-meters, electric lighting, management and care of accumulators, energy consumed in lamps, adjustment and care of arc lamps, proper wiring of buildings, the application of electricity to street railways, magnetic measurements, tests of transformers and alternating motors, etc.

DRAWING AND CONSTRUCTION.—Two hours per week in the senior year are devoted to the design and construction of electrical machinery. The student is required to make original designs of dynamos, motors, transformers, etc.

TEXT-BOOKS.

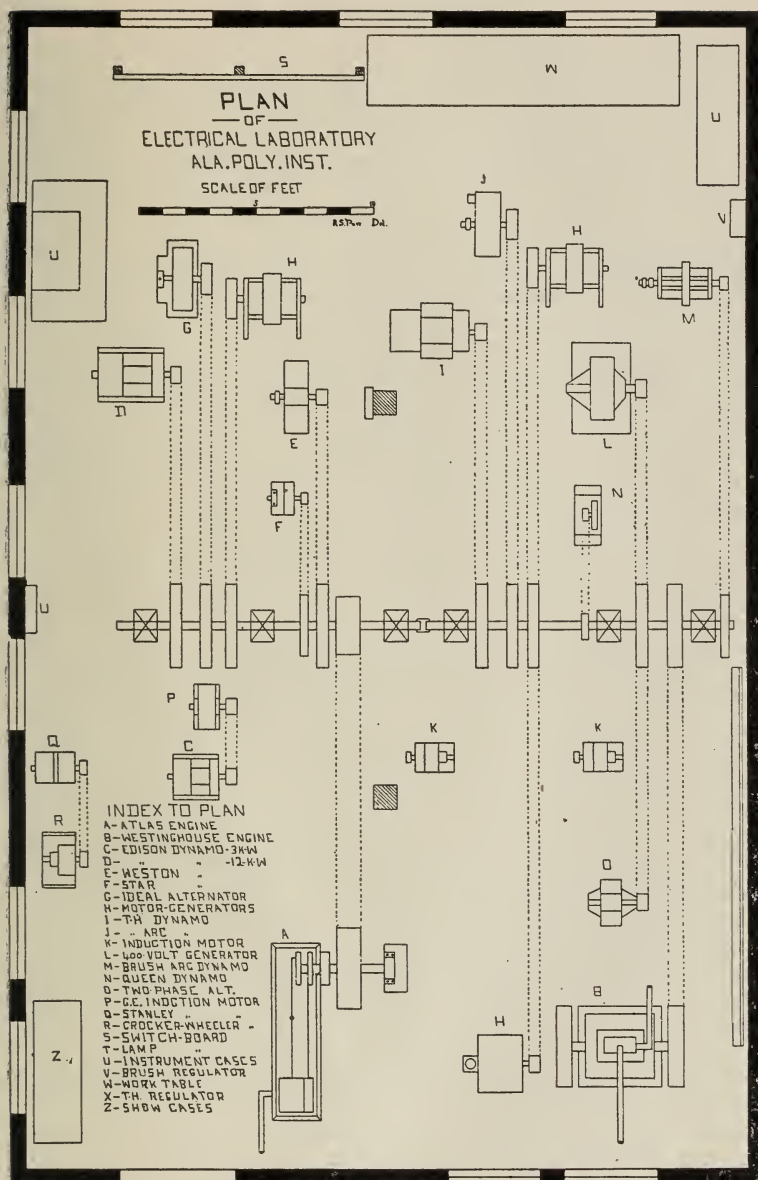
Thompson's Dynamo Electric Machinery, Bell's Power Transmission, Nichol's Laboratory Manual, Vol. II.

POST-GRADUATE COURSE.

This includes advanced study and laboratory work in alternating currents.

REFERENCE BOOKS.

The Dynamo by Hawkins & Wallace, Alternating Currents by Jackson, Principles of the Transformer by Bedell, Dynamos, Alternators and Transformers by Kapp, Alternating Current Phenomena by Steinmetz.



EQUIPMENT.

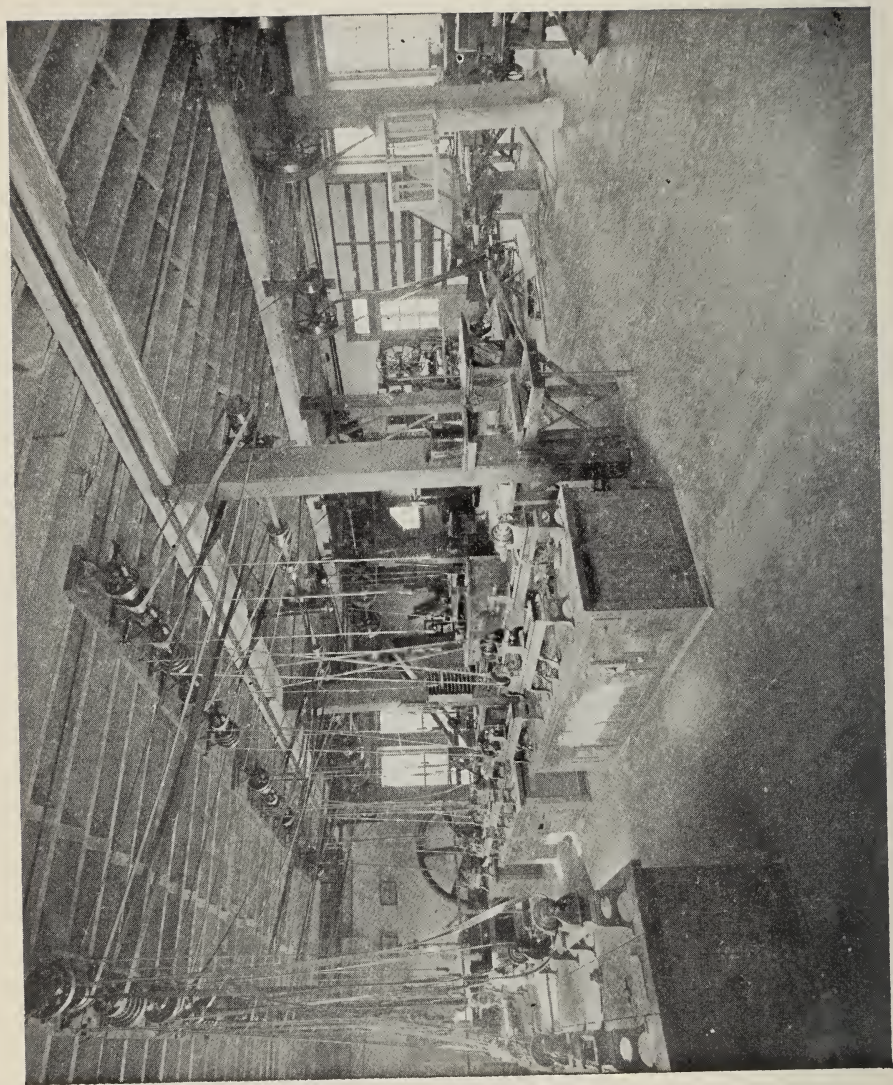
The electrical laboratory has a complete line of batteries, call-bells, annunciators, telegraph sounders, relays, keys, magnets; galvanometers, resistance boxes, electro-plating apparatus, and all apparatus for students in electrical engineering. The equipment comprises many fine instruments of precision: Lord Kelvin's standard 100 ampere balance (either for direct or alternating currents); Lord Kelvin's graded current galvanometer, reading 600 amperes; also, his graded potential galvanometer, reading 600 volts; Weston alternating current voltmeter, Weston direct reading watt-meter, Queen's "Acme" testing-set, Kelvin electro-static voltmeter, Cardew voltmeter (for direct or alternating currents), reading to 150 volts; Weston's standard ammeter and voltmeter, box of resisting coils; Queen's magnetic vane voltmeter, and ammeter, standard micro-farad condenser and Sabine key; Thompson's watt-meter, ballistic reflecting galvanometer, mirror galvanometer, Fein ammeter and voltmeter, Ayrton & Perry ammeter, Thomson inclined coil ammeter, Edison ammeters, Kohl's solenoid ammeter, Wood ammeter, Deprez ammeter, Hartman & Braun voltmeter, D'Arsonval galvanometer, Rowland-D'Arsonval galvanometer, cable testing apparatus, Hughe's induction balance, tasimeter, microphone, telephones, electrolytic apparatus and several mirror and other galvanometers for first year students.

In the dynamo room the following are installed: One Weston 150 volt, 20 ampere dynamo, with rheostat; one Brush 6 arc light dynamo, with regulator and six lamps; one Ideal 5 kilo-watt three phase alternator; one Thomson-Houston 9 arc light dynamo with lamps; one Edison compound wound 12 kilo-watt generator; a Thomson-Houston 110 volt, 75 ampere generator; two street car motors used as either direct or alternating current generators or motors; two polyphase induction motors; one General Electric 5 horse-power induction motor mounted on cradle dynamometer; General Electric 20 horse-power motor; one Stanley induction motor with condensers; Edison $3\frac{1}{2}$ kilo-watt generator; a Crocker-Wheeler one horse-power motor and rheostat, and one bi-phase alternator, and 500 volt generator, made by special students, furnish current to laboratory, and light up the different buildings. A lamp board with a capacity of 210 lamps has been installed and is used for testing purposes.

The dynamos occupy a separate brick building, 50 x 32 feet, and are operated by a 35 horse-power Westinghouse vertical engine, and a 25 horse-power Atlas engine.

This department, being provided with Lord Kelvin's standard electrical instruments for exact measurements, will calibrate, free of expense, any ammeter or voltmeter that may be sent to the College.

An electric motor made by students, supplied with current from a



WOOD ROOM.

generator at a distance of 3,000 feet, operates a gin, gin press, ensilage cutter and feed cutter at the experiment station farm. This motor not only subserves a useful purpose in the operation of these machines, but is an excellent illustration of the electric transmission of power.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

B. H. CRENSHAW,	}	ASSISTANTS.
R. J. TRAMMELL,		
M. T. FULLAN,		

MECHANIC ARTS.

The course in manual training covers three years, as follows: first year, wood-working—carpentry and turning; second year, pattern making and foundry and forge work—molding, casting and smithing; third year, machine shop—chipping and filing and machine work in metals.

This course is obligatory upon the students of the three lower classes. For satisfactory reasons a student may be excused from this laboratory work by the Faculty.

The full work of each class is six hours per week, in three exercises of two hours each.

The power for running the apparatus in this department is derived from a twenty-five horse-power Harris-Corliss automatic engine which is supplied with steam by a thirty horse-power steel horizontal tubular boiler. A steam pump and a heater for the feed water, form a part of the steam apparatus. For the steam plant a substantial brick boiler-house and chimney have been erected.

The equipment for the wood-working shop comprises the following: 30 wood-working benches, each with complete set of carpenter's tools; 24 turning-lathes, 10-inch swing, each with complete set of tools; 1 double circular saw; 1 band saw; 1 board-planing machine; 1 jointer; 1 pattern-maker's lathe, 16-inch swing; 1 36-inch grindstone. The tool room is supplied with a variety of extra hand-

tools for special work, and in addition to the regular carpenter's tools in the benches, each student is supplied with a set of chisels and plane irons with a locker to keep them in and is held responsible for their care and condition.

The equipment for the foundry consists of molding benches for 18 students, each supplied with a complete set of molder's tools; a 23-inch Colliau cupola, with all modern improvements, capable of melting 2,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucible tongs, etc. Also a full supply of ladles, large and small moulding flasks, a foundry crane, special tools, etc.

The forge shop equipment consists of 16 hand forges of new pattern, each with a set of smith's tools, anvil, etc. The blast for all the forges is supplied by a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a No. 15 Sturtevant exhaust blower draws the smoke from the fires into the smoke-flues and forces it out through the chimney.

The machine department occupies a brick building, 30 x 50 feet, and is equipped with eight engine-lathes, (screw-cutting), 14-inch swing, 6-foot bed; 2 engine lathes 16-inch swing, (one with taper attachment); 1 engine lathe, 18-inch swing, with compound rest and taper attachment); 1 speed lathe, 10-inch swing; 1 20-inch drill press (power feed); 1 10-inch sensitive drill; 1 15-inch shaper; 1 22-inch x 22 inch x 5 feet planer; 1 universal milling machine; 1 corundum tool grinder (14-inch wheel); 1 bench grinder; 1 post drill press, 14-inch; 1 universal cutter and reamer grinder; 1 Brown and Sharpe universal grinding machine; 1 power hack saw. A part of the room is set apart for vise-work, chipping and filing; and benches for 12 students are provided, each with vise and set of files, chisels, hammers, etc. In the tool-room is to be found a good supply of machinists' tools for general shop use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting and measuring tools, and special appliances for machine work, with machine for grinding twist drills.

The nature of the work in each department is as follows :

FIRST YEAR.

I. A course of carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with plane, saw, chisel, different kinds of joints, timber-splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet making, light cabinet work examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through the third term. The lessons comprise, first, nature and use of lathe and tools, plain, straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

SECOND YEAR.

I. A course in forge work in iron and steel, occupying the first term. The lessons are arranged so that the students in making the series of objects, become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool-forging, tempering, hardening, etc.

II. A course in pattern-making covering the second term. The work includes a variety of examples of whole and split patterns, core work, etc., giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks; core work is also given, and some three part flask and some dry sand work is introduced.

The same patterns which have been previously made by students are used, besides special patterns for occasional larger or more complicated work. Instruction and practice is given in working the cupola.

In connection with this second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

THIRD YEAR.

I. A course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron; chipping to line on flat and curved surfaces, key-seating, etc., filing and finishing to line (straight and curved), surface filing and finishing, fitting, slotting, vedotail work, sawing, pin and screw filing, surface finishing with scraper, etc.

II. Machine work occupying the remainder of the year. The work includes cast and wrought iron, steel and brass; turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling—both in lathe and drill press,—reaming, boring, screw-cutting in lathe and with taps and dies, planing, slotting, etc.,

with planer and shaper, milling various forms with the milling machine, including exercises in making taps, reamers, etc., fitting, grinding, polishing, etc.

Lectures are also given during the year on various subjects connected with machine work in metals; such as forms, construction and use of the various machines, cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given the classes.

All of the work is done from blue prints made by the class in drawing. In the construction work, the student is given a blue print and the material for a certain part. He is then encouraged to study the work and plan the best method of doing it.

MECHANICAL ENGINEERING.

JUNIOR YEAR.

Elementary Mechanics.—Three hours a week for the first term are devoted to this subject. The fundamental laws underlying all mechanical science and the mechanics of liquids, gases and vapors are studied.

Principles of Mechanism.—Three recitations per week during the second and third terms are devoted to this subject.

Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear wheels, belts, cams, screws and link-work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motions as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Mechanical Drawing.—During the first term the students make drawings to exact scale, of some of the simpler machines. The student takes his own measurements and makes his own sketches from which to make the finished drawing.

An elementary course of machine design is started at the beginning of the second term and continued till the end of the year. Some comparatively simple machine is selected and studied in all its details. Careful attention is given to the strength of the parts and their mechanical arrangement with reference to facility of manufacture. An actual machine or the working drawings of a machine are obtained, the dimensions compared with those obtained by applying the theoretical formulas, and the causes of variation between the two studied.

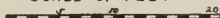
PLAN OF LABORATORY

~ OF ~
MECHANIC ARTS,
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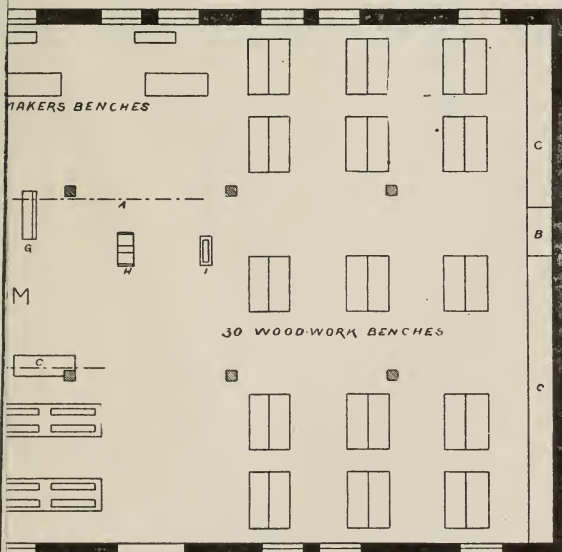
1895. B. CRENSHAW, DEL.

SCALE OF FEET



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PLAN OF LABORATORY ~ OF ~ MECHANIC ARTS, ALA. POLY. INST.

AUBURN, ALA.

1895

SCALE OF FEET

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BOILER ROOM

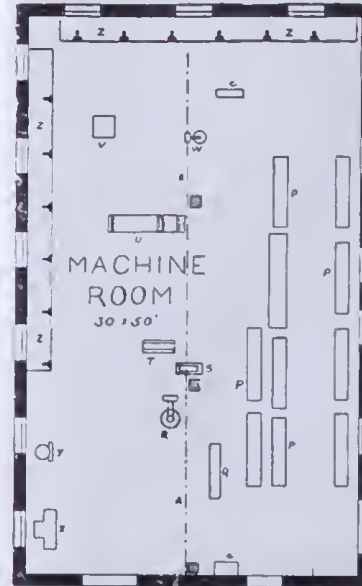
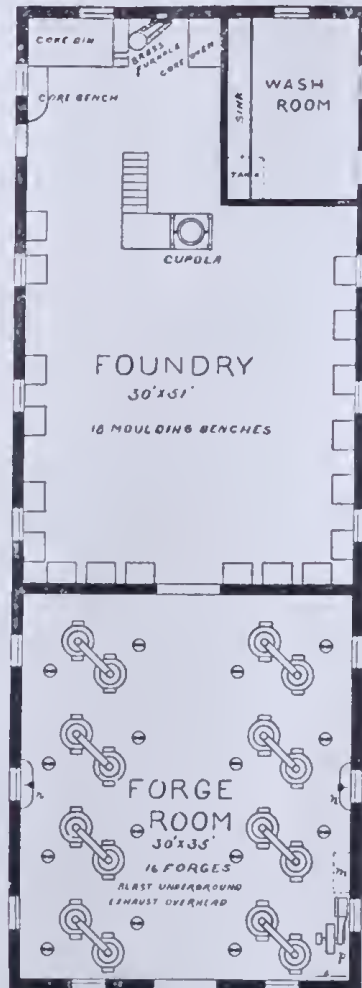
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FORGE ROOM

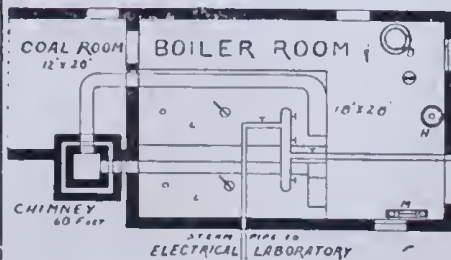
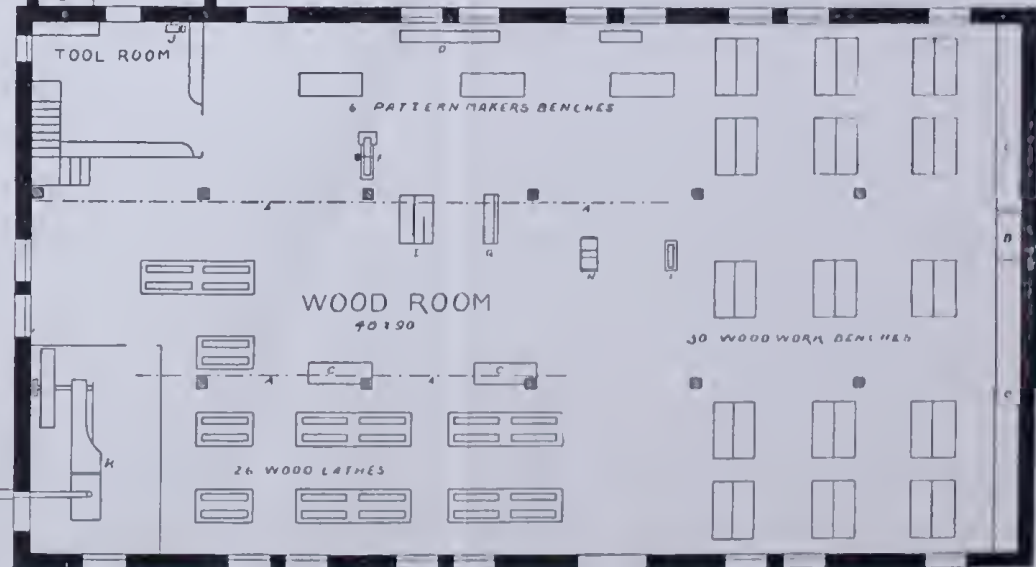
Y BLOWERS
Z BENCHES
P 3" SLIDE VALVE ENGINE
MADE BY STUDENTS



MACHINE TOOLS

OFFICE

TOOL ROOM



Laboratory Work.—The laboratory work will consist of hand work in iron and machine work in iron, as given in the course in mechanic arts in the third year.

TEXT-BOOKS.

Wood's Elementary Mechanics; Stahl and Wood's Elementary Mechanism.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term five hours per week is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturer's catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Steam Engine.—The second term five hours per week will be given to the study of the theory and efficiency of the steam engine, with discussions of the effects of condensation in cylinder, action of fly-wheels, effects of jacketing, etc. Simple and compound engines, various valves and cut-off motions, and the principal types of modern engines are studied. Special attention is given to the steam engine indicator.

Graphical Statics of Mechanism.—Six weeks of the third term, five hours per week, will be given to the study of this subject. The advantage of graphical over analytical methods is generally recognized, and new applications of the former are constantly being made. By its use, the forces acting in every part of a machine may be determined, both in direction and intensity, without the use of a mathematical formula.

During the remainder of the third term, a series of lectures on mechanical refrigeration and gas engines is given.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. During the first term, the strength and proportions of different joints and fastenings are studied, and problems given for actual solution. During the remainder of the year the time is spent on steam engine design. The results as obtained from standard formulas are compared with the dimensions as used by the best constructors, and the reasons for variations, if any occur, are studied.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions.

Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged :

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales and balances; calorimeter tests with barrel separating and throttling calorimeters; boiler test with determination of the quality of steam and analysis of flue gas; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; efficiency and duty of a steam pump; tensional, compressional and transverse tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength and the modulus of elasticity.

This class usually makes a test of some electric plant or mill some time in the last term.

The apparatus for carrying on this work consists of 45 horse-power Imperial cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump, of a 25 horse-power Harris-Corliss engine, a 35 horse-power Westinghouse engine, a 25 horse-power Atlas engine, two 9 horse-power engines constructed by students in the shops, a small engine and boiler especially for making efficiency tests, a duplex Deane steam pump, an Ericsson hot air engine, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, pyrometers, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester for correcting the standard gauge, a 35,000-pound testing machine, and Henning micrometer extensometer, a Carpenter calorimeter with

auxiliary apparatus for determining the heating value of different fuels, a draft gauge, and a Henning pocket recorder.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Holmes's Steam Engine, Herrman-Smith's Graphical Statics of Mechanism; Unwin's Machine Design.

REFERENCE BOOKS.

The Library contains a number of standard works on the various subjects studied, and the students are referred to them constantly for more extended treatment of many points that come up in class.

POST-GRADUATE COURSE.

The following course has been arranged and represents the amount of work required. Hydraulics may be substituted for thermodynamics if the members of the class are unanimous in wishing the change. Other substitutions may be made at the option of the professor, provided they represent an equivalent amount of work, and are in the general line of the course selected.

Dynamometers.—This includes dynamometers and the measurement of power. Absorption and transmission dynamometers are studied, with their application and use in testing steam engines.

Valve Gears.—The different forms of valve gears of steam engines are studied, and problems in designing gears are worked out.

Thermodynamics of the Steam Engine.—This subject is studied theoretically and practically, and attempts a complete analysis of the action of steam in an engine.

Laboratory Work.—As much advanced laboratory work will be given as can be arranged with the appliances at hand.

TEXT-BOOKS.

Flather's Dynamometers and Measurement of Power, Spangler's Valve Gears, Peabody's Thermodynamics of the Steam Engine, Merriman's Hydraulics.

AGRICULTURE.

PROFESSOR DUGGAR.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and extends through three terms of the sophomore year and two terms of the junior year. The time devoted to this study in the lecture room is two hours per week with each class.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs,—their characteristics, uses, management and adaptability to the South. Practical work in judging live-stock is included in the course.

The first term of the sophomore year is devoted to dairying and to a study of the principles of live-stock breeding. Dairying will be taught by practical work in the dairy,—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: soils—chemical and physical properties, defects, and means of improvement; the control of water, including means of conserving moisture in times of drought, terracing, underdrainage, and open and hillside ditches; objects and methods of cultivation; agricultural implements; rotation of crops; and improvement of plants by crossing, selection, and culture.

The third term of the sophomore year is devoted to the staple crops produced in Alabama, to forage plants adapted to the South, and to plants valuable for the renovation of soils. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivating, and uses.

In the junior year the subjects of feeding animals and of farm management are studied. Among the topics included under the latter heading are different systems of farming and stock growing, farm equipment and buildings, silos and silage, care of farm manures, compost-



LABORATORY OF BIOLOGY.

ing, choice and methods of applying commercial fertilizers for different crops and soils, and economical methods of improving exhausted soils.

In every class the student is encouraged to independent thought on agricultural problems rather than to depend on "rules of thumb," so that he may be prepared to adapt his practice in after years to changed conditions of soil, climate, capital, market, etc. The successful farmer must be a thinker rather than a blind follower of inflexible rules.

The effort is made to keep before the student the difference between the widely applicable principles on which every rational system of farming rests and the details that vary with changing conditions. The conditions of soil, climate, etc., prevailing in different parts of Alabama are kept constantly in view.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

REFERENCE BOOKS.

Horses, Cattle, Sheep, and Swine, by Curtis; Milk and its Products, by Wing; Dairyman's Manual, by Stewart; Soils and Crops of the Farm, by Morrow & Hunt; Muir's Agriculture; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; The Soil, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in some of its relations with Chemistry, by Storer; Manual of Cattle Feeding, by Armsby; Feeds and Feeding, by Henry; Stock Breeding, by Miles; Hand-Book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture and of the agricultural experiment stations.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

BIOLOGY AND HORTICULTURE.

PROFESSOR EARLE.

The subject of biology is required of the senior class in the courses of chemistry and agriculture, and of pharmacy. It occupies five hours a week for three terms of

the senior year. The work in this department will be largely confined to the study of the lower forms of plant life and to vegetable physiology, or the study of plants as living beings. Under the first head special attention will be given to the bacteria and other diseases producing organisms of man and the higher animals; and to the parasitic fungi that cause diseases of plants. Under vegetable physiology those problems that explain the foundation for correct agricultural practices will be made most prominent. This will include the germination of seeds, the food and nutrition of plants, the circulation of the sap, the processes of reproduction, plant variability, etc.

The instruction will be by text-book, supplemented by lectures and by practical laboratory work.

The students will be required to make careful microscopic drawings of objects studied. They will also collect material in the fields and determine it so far as their instruction will admit.

The equipment for instruction in this department comprises besides a sufficient lecture room, a students' laboratory and two small glass rooms for cultural and bacteriological work. These are supplied with water, gas and all necessary appliances for thorough primary and advanced work, including compound and dissecting microscopes for each student, microtomes, paraffine baths, incubators, steam and dry sterilizers, instantaneous water heaters, Pasteur filter, chemical and common balances, set of Brendel's models of parasitic and other fungi, besides a large and well selected stock of glassware staining fluids, chemical re-agents, culture, media, etc.

In the private office of the department, which is fitted up as a special laboratory for the use of the professor in charge, is located a good reference library and the scientific collections of the department. At present these consist of about 15,000 named specimens of fungi, and of the other groups of cryptogams. These books and collections are accessible to the students, and constitute, with the other resources mentioned, a superior equipment for advanced biological instruction.

HORTICULTURE.

At present special horticultural instruction is confined to the spring term of the junior year in the course of



CORPS OF CADETS.

chemistry and agriculture, and to some practical work and "field lectures" to the students of the same course during the sophomore year. Instruction is given by lectures and text-book and by courses of reading, using the green house and orchards and gardens of the experiment station to give practical illustrations of the subjects taught.

Attention is called to the various fruits and vegetables that can be successfully cultivated in Alabama, and methods of propagation, cultivation and marketing are discussed. Particular attention is called to the diseases and insect enemies to which each of these crops are liable, and careful directions are given as to the best known means of combatting them. The construction and management of green houses, hot beds and cold frames receive special attention, while such topics as floriculture, landscape gardening and forestry are discussed in a general way only.

Special work will be arranged for any student desiring to take a more extended course in horticulture.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements. Ammunition for practice firing is used under the direction of an experienced officer. The exercises in target practice begin the first day of the third term.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and pants as worn at West Point, with sack coat for fatigue, dark blue

cadet cap. A neat and serviceable uniform can be obtained here at \$14 to \$15. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected either from the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and Commandant. The resignation of his office by a minor will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

No cadet can continue an officer in the corps who during a session is classed in the fourth grade in two or more subjects at any term examination, or in the fourth grade in any subject at two term examinations; nor who receives during the session more than 60 demerits.

Examinations will be conducted by a Board of Officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the Board are subject to revision and approval by the President of the College.

Each company is officered by one captain, two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in "Notes on Military Science."

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. Army, and the names of the three

most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

PHYSIOLOGY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books, supplemented by black-board drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.).

Martin's Human Body is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college and experiment station libraries.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the

aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.



Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practice of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post mortem examinations and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

The senior class in pharmacy devotes three hours per week, during the first and second terms, to the study of therapeutics; and four hours per week during the third term to class room and laboratory work in bacteriology.



LABORATORY OF PHARMACY.

To the post-graduate student this department furnishes work in histology, bacteriology, pathology, meat and milk inspection. Such students may devote their entire time to work in this department with approval of faculty.

The department of physiology and veterinary science is now located by itself in a building which consists of a two-story portion, containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor; and a one-story part, which contains an operating room.

The building is supplied with water and gas, and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box stalls, four open single stalls, an office and a feed room, on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

Every Saturday during the college year, the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lamenesses and to become proficient in minor operations.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *four hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *nine hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than two hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than three hundred drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

MISCELLANEOUS.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book, and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of ab-

sence for which a satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or being absent by reason of family sickness, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from College by his parents his zeros for absences are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of Distinction are awarded in public on commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class, provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

From the records a monthly circular, or statement, is sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, November, February, and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except in extreme cases.

LIBRARY.

The library occupies an elegant, well-lighted room in the main building, and also two smaller adjacent rooms. It contains over 12,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room, and is thus made an important educational feature.

MUSEUM.

The museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

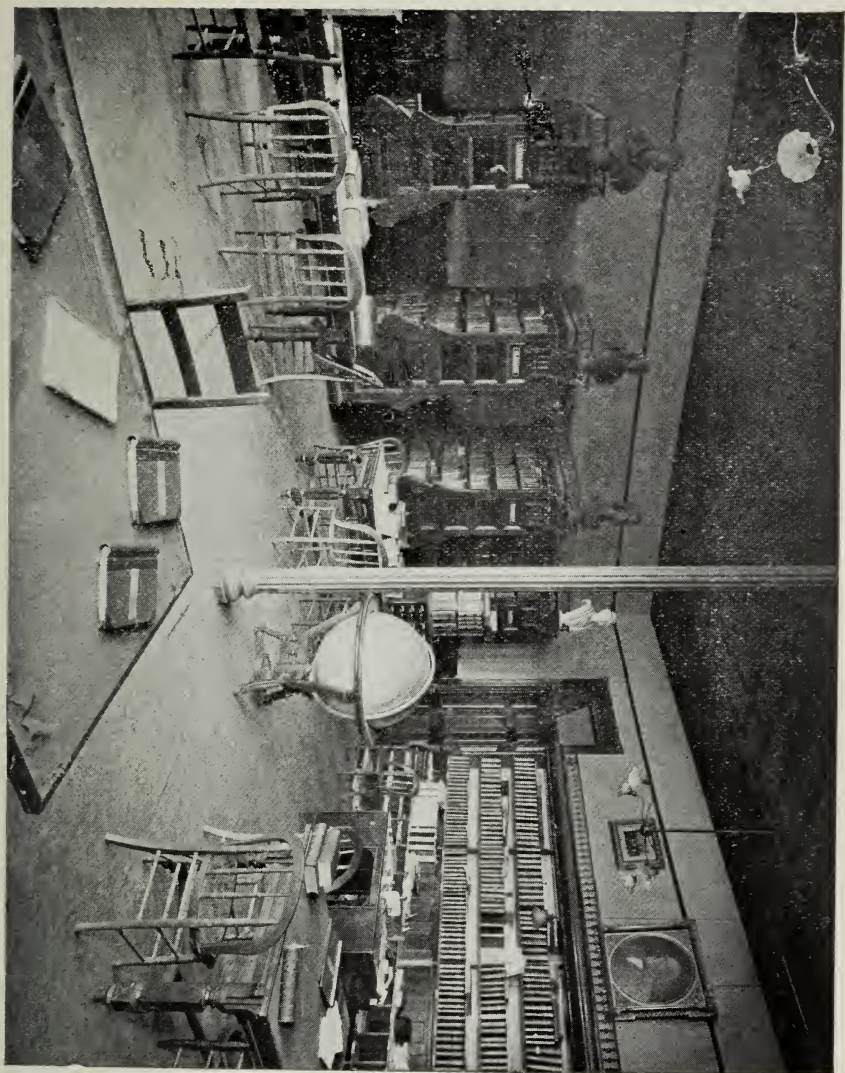
Students, after selecting their boarding-houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age and to those who are on the "honor roll," except on special conditions.

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mrs. A. DeBardeleben and Mrs. S. M. Anderson, will accommodate students with board, lodging and fuel, for \$9.50 per month.

EXPENSES.

There is no charge for tuition for a resident of Alabama.	
Incidental fee, per half session	\$ 2 50
Library fee, per half session	1 00
Surgeon's fee, per half session	2 50
	<hr/>
	\$ 6 00



These fees are payable, \$6.00 on matriculation and \$6.00 on February 1st. By order of the Trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

For a non-resident of the State there is a charge for tuition of \$20.00 per session, payable \$10.00 on matriculation and \$10.00 on February 1st, in addition to the semi-annual fee of \$6.00 payable by all students.

Board, per month, with fuel and lights...	\$ 12 00 to \$15 00	
Fees	12 00 to 12 00	
Board, lodging, fuel and lights.....	108 00 to 135 00	
Washing.....	9 00 to 9 00	
Books, etc., say.....	8 00 to 15 00	
		<hr/>
Total	\$137 00	\$171 00

For non-resident students there should be added to the amounts given above \$20.00 for tuition. This tuition fee is not required of any non-resident student who matriculated during the session of 1896-7.

Tuition for students not residents of Alabama is \$20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year, or who, by reason of merit, are deemed worthy.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each, by reason of special merit in conduct and scholarship during the session 97-98, an honor scholarship, which exempted from tuition fees:

E. Bukofzer	Tennessee.
R. B. Hall	Georgia.
J. P. Illges.....	Georgia.
M. N. Fleming.....	Georgia.
A. F. Jackson.....	Georgia.
J. M. McGoolrick	Georgia.
J. P. Moore	Georgia.
C. W. Nixon.....	Tennessee.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made, by a contractor, of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present about \$14.00. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to college property for which he may be liable.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:		
Incidental fee.....	\$ 2 50	
Library	1 00	
Surgeon	2 50	
Contingent fee.....	5 00	
Uniform	14 00	
	<hr/>	
	\$25 00	\$25 00
Tuition, non-resident		\$10 00
		<hr/>
		\$35 00

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say \$25.00. Hence, a resident of Alabama should deposit with the Treasurer \$50.00, a non-resident, \$60.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc., when approved.

When funds are deposited, checks are drawn on the Treasurer of the College by the cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the Treasurer. No student

should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty an essay or oration and read and deliver the same at commencement, if required by the Faculty.

It must be given to the Professor of English by the first of April.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22nd of February. They elect annually, with the approval of the Faculty, an orator to represent them at the close of the year.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and declamation.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

In 1885, the Alumni Society established “The Alumni Scholarship,” which makes an annual loan of one hundred and seventy dollars to a beneficiary elected by the society. Eight young men have been thus enabled to go through College. This scholarship is supported by annual contributions from the Alumni and other friends of the institution.

Subscriptions should be sent to B. H. Crenshaw, Treasurer, Auburn, Ala.

The annual alumni oration is delivered by a member

of the society, in Langdon Hall, on Alumni Day, Tuesday of commencement week.

The following are officers of the society.

WM. H. BLAKE, of '92, M. D., President.
C. L. HARE, " '94, Vice President.
H. H. SMITH, " '95, Secretary.
B. H. CRENSHAW, '89, Treasurer.
T. H. SAMFORD, '88, Orator for 1899.

SURGEON.

The Surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1899-1900 commences on Wednesday, 13th September, 1899 (*second Wednesday after the first Monday*), and ends on Wednesday, 13th June, 1900 (*second Wednesday after the first Monday*), which is commencement day.

It is divided into three terms. The first term extends from the opening of the session to the 22nd of December; the second term begins January 2nd, and ends March 18th; the third term continues to the close of the session.

AN ACT OF THE LEGISLATURE

To change the name of the Agricultural and Mechanical College of Alabama.

WHEREAS, the Agricultural and Mechanical College at Auburn having by means of the appropriations made by the State legislature, and by those made and continued in recent years by the acts of Congress, developed, as originally designed, into an institution where are taught not only the branches that relate to agriculture and the mechanic arts, but also the sciences and arts in general that relate to the industrial development of modern civilization, therefore:

SECTION 1. *Be it enacted by the General Assembly of Alabama*, That said institution shall hereafter be known and designated as The Alabama Polytechnic Institute, it being provided that said Institute shall continue to perform the functions of the State college for the benefit of agriculture and the mechanic arts, in accordance with the provisions of the Acts of Congress of July 2, 1862, granting lands to the several States and territories for collegiate purposes.

Approved January 27, 1899.

(Official)

ROBT. P. McDAVID,

Secretary of State.

DONATIONS TO THE DEPARTMENT OF ELECTRICAL ENGINEERING.

General Electric Co., Harrison, N. J., case of incandescent lamps.

S. C. Shaffner, Mobile, Ala., two arc lamps.

W. H. McBryde, New York, N. Y., one magnetic lamp socket.

DONATIONS TO THE DEPARTMENT OF MECHANICAL ENGINEERING FOR THE YEAR 1898-99.

Samples of Lathe and Planer Tools, donated by Armstrong Brothers Tool Co., Chicago, Ill.

Set of Castings and blue prints for complete Corliss valve gear, adapted to the Harris-Corliss engine in the shop, donated by The Edwin P. Allis Co., Milwaukee, Wis.

Samples of Finch Automatic oil cups, donated by George L. Thompson Manufacturing Co., Chicago, Ill.

Samples of Copper Gaskets, donated by The United States Mineral Wool Co., New York, N. Y.

DONATIONS TO THE GENERAL LIBRARY.

To the General Library, 12 vols.

Pamphlets, etc., 36 vols.

Government publications, 195 vols.

TO THE EXPERIMENT STATION LIBRARY.

Scientific papers and pamphlets, 63.

Bound volumes by Prof. C. F. Baker, 67.

Pamphlets by Prof. C. F. Baker, 143.

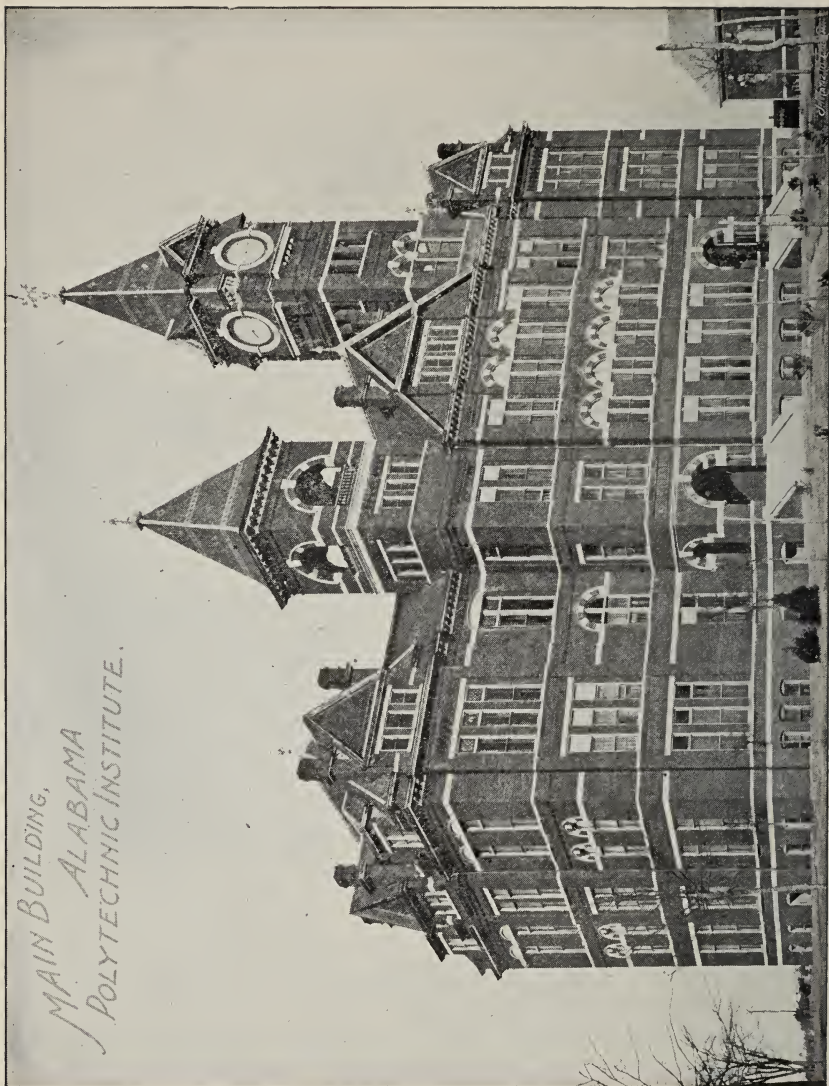
There are 56 scientific and literary journals regularly received in the general library, and 38 foreign journals and 26 American in the Experiment Station library, all of which are accessible to the students.

Addenda to List of Students,

Lynn Mathewis Boyd Macon.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS.

MAIN BUILDING,
ALABAMA
POLYTECHNIC INSTITUTE.



CATALOGUE

OF THE

Alabama Polytechnic Institute.

STATE COLLEGE,

FOR THE

Benefit of Agriculture and the Mechanic Arts.

AUBURN, ALABAMA.

1900.

MONTGOMERY, ALA.
BROWN PRINTING CO., PRINTERS AND BINDERS.
1900.

TRUSTEES.

His Excellency, JOSEPH F. JOHNSTON, President.....*Ex-officio*.
JOHN W. ABERCROMBIE, Superintendent of Education..*Ex-officio*.

F. M. MOSELEY,.....(term expires 1905).....Union Springs.
W. K. TERRY,.....(term expires 1905).....Birmingham.
T. H. FRAZER,.....(term expires 1905).....Mobile.
N. P. RENFRO,.....(term expires 1905).....Opelika.

J. G. GILCHRIST,.....(term expires 1903).....Hope Hull.
TANCRED BETTS,.....(term expires 1903).....Huntsville.
WALTER C. WHITAKER, (term expires 1903).....Tuscaloosa.

JONATHAN HARALSON, ... (term expires 1901).....Selma.
THOS. WILLIAMS,.....(term expires 1901).....Wetumpka.
J. A. BILBRO,.....(term expires 1901).....Gadsden.

E. T. GLENN, Treasurer.

J. H. DRAKE, M. D., Surgeon.

R. W. BURTON, Secretary.

FACULTY AND OFFICERS.

WM. LEROY BROUN, M. A., LL. D.,
President and Professor of Physics and Astronomy.

OTIS DAVID SMITH, A. M., LL. D.,
Professor of Mathematics.

PATRICK HUGHES MELL, M. E., PH. D.,
Professor of Botany and Geology.

JAMES HENRY LANE, C. E., A. M., PH. D., LL. D.,
Professor of Civil Engineering and Drawing.

CHARLES COLEMAN THACH, A. M.,
Professor of English and Political Economy.

GEORGE PETRIE, M. A., PH. D.,
Professor of History and Latin.

BENNETT BATTLE ROSS, M. Sc.,
Professor of General and Agricultural Chemistry and State Chemist.

* CHARLES HUNTER ROSS, C. E., PH. D.,
Professor of Modern Languages.

JOHN JENKINS WILMORE, M. E.,
Professor of Mechanical Engineering and Director of Laboratory.

CHARLES ALLEN CARY, B. Sc., D. V. M.,
Professor of Physiology and Veterinary Science.

EMERSON R. MILLER, PHAR. M., M. Sc.,
Professor of Pharmacy.

JOHN FREDERICK DUGGAR, M. Sc.,
Professor of Agriculture.

FRANK SUMNER EARLE.
Professor of Biology and Horticulture.

ARTHUR ST. CHARLES DUNSTAN, M. E., C. E.,
Professor of Electrical Engineering and Physics.

BOLLING HALL CRENSHAW, M. E.,
Assistant Professor of Mechanic Arts and Mathematics.

BENJAMIN SWEAT PATRICK, E. & M. E.,
Commandant and Acting Professor of Military Science.

* Deceased.

THOMAS GREEN FAULKNER, M. A.,
Acting Professor Modern Languages.

CLIFFORD LEROY HARE, M. Sc.,
Instructor Chemical Laboratory.

ROBERT JEFFERSON TRAMMELL, C. E.,
Instructor in Mechanic Arts.

HENRY HEARST KYSER, E. & M. E.,
Instructor in Physical and Electrical Laboratory.

WALTER LYNWOOD FLEMING, M. Sc.,
Assistant Librarian.

MICHAEL THOMAS FULLAN, M. Sc.,
Assistant in Mechanics Arts.

ROBERT HIGGINS ADAMS, B. Sc.,
Assistant in English and Mathematics.

WILLIAM OSCAR SCROGGS, B. Sc.,
Assistant in English.

* ARTHUR MCBRYDE RANSOM, M. Sc.,
Assistant in Chemistry.

ISHAM FENNELL McDONNELL, B. Sc.,
Assistant in Electrical Engineering.

THOMAS HENNINGTON McADORY, B. Sc.,
Assistant in Mechanic Arts.

ARTHUR HENRY FEAGIN, B. Sc.,
Assistant in Civil Engineering and Drawing.

† HARRY STREETY HOUGHTON, B. Sc.,
Assistant in Chemistry.

BAILEY EDGAR BROWN, B. Sc.,
Assistant in Veterinary Science.

C. C. THACH,
Superintendent of Library.

O. D. SMITH,
Corresponding Secretary.

* Resigned.

† Appointed Feb. 15th.

OFFICERS.
OF THE
AGRICULTURAL EXPERIMENT STATION.

COMMITTEE OF TRUSTEES ON EXPERIMENT STATION.

F. M. MOSELEY.....Union Springs.
J. G. GILCHRIST.....Hope Hull.
JONATHAN HARALSON.....Selma.

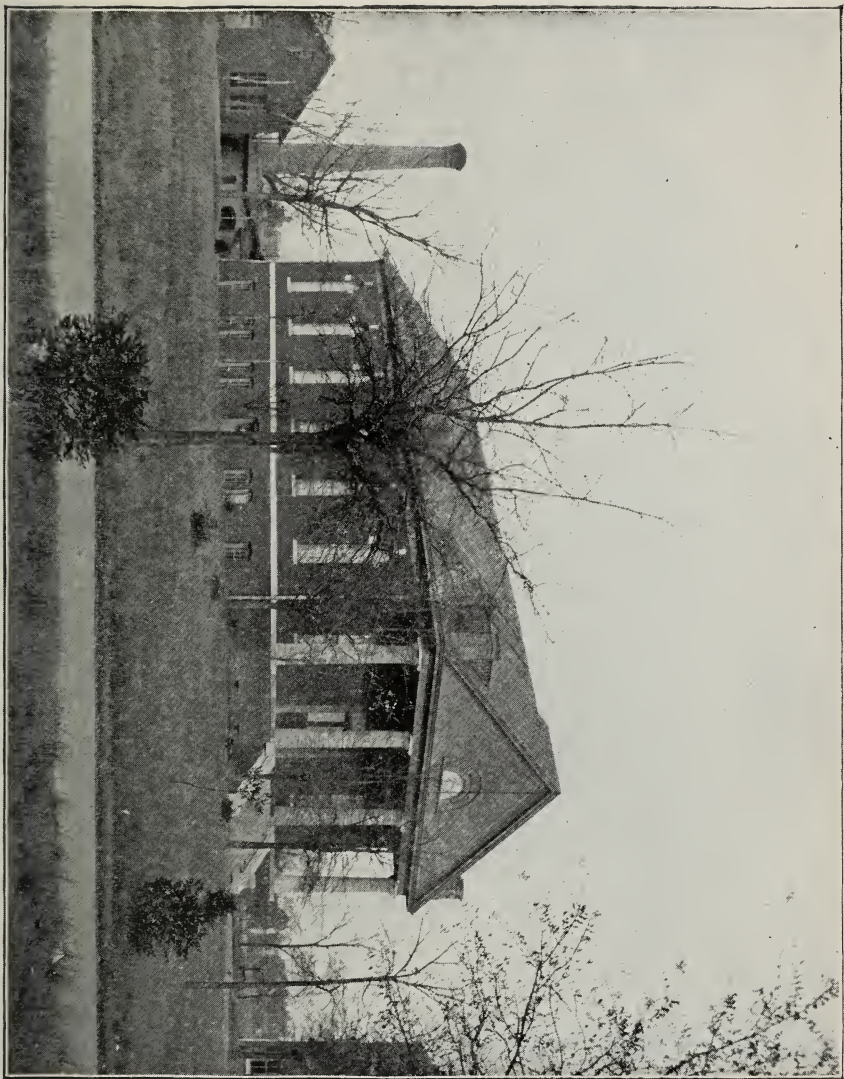
STATION COUNCIL.

WM. LEROY BROWN.....President.
P. H. MELL.....Director and Botanist.
B. B. ROSS.....Chemist.
C. A. CARY, D. V. M.....Veterinarian.
J. F. DUGGAR.....Agriculturist.
F. S. EARLE.....Biologist and Horticulturist.
J. T. ANDERSON.....Associate Chemist.

ASSISTANTS.

C. L. HARE.....First Assistant Chemist.
J. Q. BURTON.....Second Assistant Chemist.
* H. S. HOUGHTON.....Third Assistant Chemist.
T. U. CULVER.....Superintendent of Farm.
R. W. CLARK.....Assistant Agriculturist.
MOSES CRAIG.....Assistant Horticulturist.

* Appointed Feb. 15, vice A. McB. Ransom, resigned.



LANGDON HALL.

The Institute is a distinctive school of Science and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts established by the State in 1872, by endowing it with the land-grant appropriation made by the U. S. Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I—IN AGRICULTURE AND HORTICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who entered upon this course of study.

II—IN MECHANIC ARTS.

The laboratory of mechanic arts is used as an auxiliary in industrial education, and as a school of manual training in the arts that constitute the foundation of various industrial pursuits. The work performed by the students is *instructive* in character, as in any other laboratory, and the classes are taught in sections by a series of graded lessons under the supervision of the professor. In the lower classes of the Institute each student enters this school and is assigned three exercises a week, each exercise being two hours long.

The object of this laboratory is not to teach a trade, but to educate, to discipline and train the eye and the hand, as well as the mind, and thus by associating

manual and mental training, to educate thoroughly the student for the duties of life, whatever may be his vocation. There is no attempt to teach students special skill in constructing articles of commercial value, but all the exercises are systematically arranged and designed for purposes of education.

The wood department is located in a commodious hall, 90x50 feet, and is provided with a twenty-five horsepower Corliss engine, a planer, circular saw, band-saw, two scroll saws, a buzz planer, a pattern maker's lathe, twenty-four stands, each with a lathe and a full set of tools, and thirty benches for carpenter work with the tools requisite for construction.

A brick building, 30x87 feet, with two rooms, has been constructed especially for instruction in working iron.

One room is equipped with sixteen forges and tools required for a forge department, and the other with a Colliau cupola furnace, a core oven, a brass furnace, molding benches, foundry crane constructed by students, and special tools for use in a foundry.

The forge and foundry rooms are furnished with a Sturtevant fan and exhauster, supplied with power from a ten-horse power engine, constructed by the students in mechanic arts.

The machine department occupies a brick building, 30x50 feet, and is equipped with ten engine lathes, one speed lathe, one 20-inch drill press, one 10-inch sensitive drill, one post drill, one 16-inch shaper, one 5-foot planer, one universal milling machine, a corundum tool grinder, a small emery grinder, a universal cutter and reamer grinder, a No. 1 Brown & Sharpe universal grinding machine, and a power hack saw.

The chipping and filing department is arranged with benches, vises and tools for twelve students.

The tool room is well supplied with special tools for use in instruction, including a machine for grinding twist drills. The rooms are lighted with electricity whenever necessary.

III—IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research. The building contains a large general laboratory that accommodates sixty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV—IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement and is equipped with many fine instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, and other laboratory instruments, the department is supplied with representatives of the best types of commercial electrical instruments from foreign and domestic makers.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a thirty-five horse power Westinghouse engine. In this building are installed the following dynamos:

Edison compound 12 Kilo-watt generator, Thomson-Houston 150 light 110 volt dynamo, Weston 150 volt 25 ampere generator, Crocker-Wheeler one horse power motor, Ideal 3 phase alternator, Brush 6 arc light dynamo with lamps, two Baxter street car motors, 20 horse power each (so connected as to be used as direct or alter-

nating current motors or generators), one 5 horse power three phase motor, one General Electric 20 horse power motor, one 40 light shunt dynamo, one Edison 3 Kilowatt generator, one Stanley induction motor with condenser, two bi-phase induction motors (built by students), one 9 light Thomson-Houston arc machine, two phase alternator and 500 volt 20 ampere generator, made by students. There is also in connection with this department at the experiment station, a ten horse power motor, made by students, which is operated by the 500 volt generator in the dynamo room.

V—IN PHYSICS.

In the College building provision is made for elementary laboratory work in the department of physics. Special rooms are appropriated for this purpose, and are equipped with the necessary appliances for instruction in practical physics.

VI—IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII—IN BOTANY.

In the work of the agricultural experiment station there is a botanical garden under the charge of the professor of botany; investigations in botany are given special attention, and opportunities are offered advanced students for practical work in a laboratory especially fitted with microscopes, tables, a dark room for photographic work, and appliances needed for instruction and research. This department is provided with Auzoux's elastic models of seeds and flowers for teaching botany.

VIII—IN BIOLOGY.

The laboratory in this department adjoins the lecture room of the professor, and is furnished with tables, excellent microscopes and appliances for investigation. Each student of the class works under the supervision of the professor.

IX—IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges ,etc., is provided for the use of the students, and the customary exercises in the field are given.

X—IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided with tables, lock-boxes, etc.

XI—IN MECHANICAL ENGINEERING.

The mechanical course has been extended to include experimental work in mechanical engineering.

The apparatus available for this instruction is as follows: A 45 horse power Imperial Cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump, a 25-horse power Harris-Corliss engine, a 35 horse power Westinghouse engine, two 9 horse power engines constructed by students, the boilers belonging to the regular power plant, a small engine and boiler for the special purpose of making efficiency tests, a Deane duplex steam pump, a 4-horse power gasoline engine, an Ericsson hot air engine, a New York air pump, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, thermometers, a pyrometer, scales, a standard steam gauge with appar-

atus for testing steam gauges, a Crosby dead weight tester with weights for correcting the standard gauge, a 35,000-pound testing machine, a Henning micrometer extensometer, and a Carpenter calorimeter with the necessary auxiliary apparatus for determining the heating value of different kinds of coal.

This work is now carried on in the lower story of the annex to the chemical laboratory. This room is 30x60 feet in size and was specially designed and fitted up for this purpose. A three-inch steam main has been laid from the boiler house, thus securing a steam supply in the building for all work requiring it. The work is thoroughly practical, and it is desired to extend it as rapidly as the funds available for the purchase of apparatus will allow.

XII—IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

XIII—IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor, from five to eight hours, six days in the week.

The facilities are increased as means are available.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and in addition the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet muskets and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160 x 71 feet and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90 x 50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page this is a two story structure, 40 by 60 feet, with a rear projection, 35 by 60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering, and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60 by 26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.



PHOTO. E. MC. GOWAN



GRADUATES IN 1899.

CLASS OF 1899.

HONOR GRADUATES.

COURSE IN CHEMISTRY AND AGRICULTURE.

Flake Earle Farley.....Lee.

COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

Jones Stephen GillilandCoosa.

COURSE IN CIVIL ENGINEERING.

Arthur Henry Feagin.....Bullock.

GENERAL COURSE.

William Oscar Scroggs.....Georgia.

COURSE IN PHARMACY.

Dozier Turner.....Elmore.

DEGREES.

BACHELOR OF SCIENCE.

LeRoy James Allen,.....Marengo.

Jesse Maldrie Atkinson.....Dale.

Emmett Gale Buck.....Mobile.

Alston Boyd.....Tennessee.

Harriet Lavinia Dabney Bondurant.....Lee.

Bailey Edgar Brown.....Morgan.

Mattie Lucile Burton.....Lee.

Thomas Greene Bush.....Calhoun.

Charles Wallace Collins.....Hale.

Colonel Seldon Crew.....Coosa.

Frederick Robert Daly.....Jefferson.

Bolivar Davis.....Jefferson.

Marion Dawson.....Elmore.

James Francis Dobbin.....Florida.

Arthur Henry Feagin.....Bullock.

Michael Thomas Fullan.....Georgia.

Jones Stephens Gilliland.....Coosa.

Theophilus Eaton Goodwin.....Crenshaw.

Fannie Maud Holstun.....Lee.

Felix Grundy Horn.....	Sumter.
Kate Meade Lane.....	Lee.
Harry Toulmin Lay.....	Montgomery.
Thomas Hennington McAdory.....	Jefferson.
Isham Fennell McDonnell.....	Madison.
Jackson Chadwick Minge.....	Marengo.
Benjamin Otey Minge.....	Marengo.
Hartley Allen Moon.....	Coosa.
Hattie Marshall Phelps.....	Lee.
Mary Evelyn Robinson.....	Lee.
John Osgood Rush.....	Autauga.
William Oscar Scroggs.....	Georgia.
Joseph Wilson Sutcliffe.....	Louisiana.
Dozier Turner.....	Elmore.
James Alfred Ward.....	Madison.
Thomas William Wert.....	Morgan.
George Madison Wheeler.....	Madison.

ELECTRICAL AND MECHANICAL ENGINEER.

Michael Thomas Fullan.....	Georgia.
Jonathan Haralson.....	Dallas.
Ashleigh Strudwick Moses.....	Baldwin.
George Wrigley.....	Georgia.

MINING ENGINEER.

....

George Nathan Mitcham.....	Georgia.
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MASTER OF SCIENCE.

Erin Black.....	Lee.
Mary Wright Boyd.....	Lee.
Alexander Humphreys Clark.....	Montgomery.
Joseph Wood King.....	Georgia.
Frank Greene Morriss.....	Talladega.
Arthur McBride Ransom.....	Georgia.

PHARMACEUTICAL CHEMIST.

John Wesley Williams.....	Lee.
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DISTINGUISHED STUDENTS.

Students who receive a grade above 90 in three studies in the freshman class, in four in the Sophomore, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded

HONOR CERTIFICATES.

The following students received honor certificates in 1899:

SENIOR CLASS

Bailey Edgar Brown.....	Morgan.
Mattie Lucile Burton.....	Lee.
Charles Wallace Collins.....	Hale.
Flake Earle Farley.....	Lee.
Arthur Henry Feagin.....	Bullock.
Jones Stephen Gilliland.....	Coosa.
Kate Meade Lane.....	Lee.
Isham Fennell McDonnell.....	Madison.
Hattie Marshall Phelps.....	Lee.
Mary Evelyn Robinson.....	Lee.
William Oscar Scroggs.....	Georgia.
Dozier Turner.....	Elmore.

HONOR STUDENTS IN THE JUNIOR CLASS.

COURSE IN CHEMISTRY AND AGRICULTURE.

Luther Noble Duncan.....	Franklin.
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COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

Roland B. Hall.....	Georgia.
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GENERAL COURSE.

James Richard Rutland.....	Chambers.
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COURSE IN PHARMACY.

Enoch Marvin Mason.....	Lee.
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JUNIOR CLASS.

Malcolm Alfred Beeson.....	Etowah.
John Samuel Black.....	Lee.
Jesse Wright Boyd.....	Lee.
Millard Morse Brooks.....	Escambia.

Edwin Bukofzer.....	Tennessee.
Emma Beall Culver.....	Lee.
William Crawford Dowdell.....	Lee.
Luther Noble Duncan.....	Franklin.
Sherman Guy Forbes.....	Dale.
Bertha Mae Grout.....	Lee.
Harry Young Hall.....	Jefferson.
Roland B. Hall.....	Georgia.
Charles Lewis Harold.....	Escambia.
Edward Zellars Heard.....	Lee.
Mary Katherine Hollifield.....	Lee.
Moses Frank Kahn.....	Lee.
Enoch Marvin Mason.....	Lee.
William Livingston Neill.....	Jefferson.
Charles Walter Nixon.....	Tennessee.
William Forney Osburn.....	Lee.
Hiram Perry Powell.....	Georgia.
Fleming James Rigney.....	Madison.
James Richard Rutland.....	Chambers.
Joseph Manning Steiner.....	Butler.

SOPHOMORE CLASS.

Eugene Flynn Enslen.....	Jefferson.
John Drewry Foy.....	Barbour.
Paul Shields Haley.....	Walker.
Arthur Flournoy Jackson.....	Georgia.
Myron Daniel Kahn.....	Lee.
Howard Malcolm Kilpatrick.....	Georgia.
Karl Edward Lindrose.....	Mississippi.
Abram Hill Mitchell.....	Lee.
Isaac Lenoir Moore.....	Lee.
Henry Edward Werner.....	Texas.
Gaius Whitfield.....	Marengo.

FRESHMAN CLASS.

Oliver Hannibal Alford.....	Marshall.
William Warren Askew.....	Georgia.
Clyde Allen Collins.....	Hale.
Jesse Duncan Elliott.....	Wyoming.
Morris Ketchum.....	Florida.
James Allen Kyser.....	Dallas.
Henry Bigham Park.....	Georgia.
Richard Blount Shepard.....	Mobile.
Jonathan Render Thomas.....	Lee.
Walker Dorr Willis.....	Florida.
John Eyers Davis Yonge.....	Florida.

CATALOGUE OF STUDENTS,

FOR THE SESSION OF 1899-1900.

GRADUATE STUDENTS.

[Residence in Alabama when State is not given.]

NAME.	RESIDENCE.
Robert Higgins Adams.....	Pike.
Bailey Edgar Brown.....	Morgan.
Toccoa Cozart.....	Montgomery.
George Webster Duncan.....	Lee.
Arthur Henry Feagin.....	Barbour.
Kate Meade Lane.....	Lee.
Richard Harris Little.....	Tuskaloosa.
Thomas Hennington McAdory.....	Jefferson.
Isham Fennell McDonnell.....	Madison.
Julian Berry Oglesby.....	Georgia.
William Oscar Scroggs.....	Georgia.

UNDERGRADUATE STUDENTS.

SENIOR CLASS.

Frank Hunter Anderson.....	Bullock.
William Lawrence Anderson.....	Montgomery.
Fletcher Ashcraft.....	Lauderdale.
Malcolm Alfred Beeson.....	Etowah.
John Samuel Black.....	Lee.
Guy French Boyd.....	Lee.
Jesse Wright Boyd.....	Lee.
Millard Morse Brooks.....	Escambia.
Edwin Bukofzer.....	Tennessee.
Judson Lamar Burke.....	Lee.
Andrew Crozier Cameron.....	Jefferson.

Frank Bovard Chapman.....	Louisiana.
Sallie McGehee Clark.....	Montgomery.
Asbury Nicholson Culver.....	Lee.
Emma Beall Culver.....	Lee.
William Crawford Dowdell.....	Lee.
Ellis Madison Duncan.....	Franklin.
Luther Noble Duncan.....	Franklin.
Rutherford Sylvanus Finch.....	Montgomery.
John Jefferson Flowers.....	Butler.
Sherman Guy Forbes.....	Dale.
Erle Humphreys Foy.....	Barbour.
Bertha Mae Grout.....	Lee.
Roland B. Hall.....	Georgia.
Harry Young Hall.....	Jefferson.
Charles Lewis Harold.....	Escambia.
Edward Zellars Heard.....	Lee.
Mabel Heard.....	Lee.
Mary Katherine Hollifield.....	Lee.
George Martin Illges.....	Montgomery.
John Paul Illges.....	Georgia.
John William Jepson.....	South Carolina.
Walter Eldrade Johnson.....	Madison.
Moses Frank Kahn.....	Lee.
Wilbur Edrald Kelley.....	Jefferson.
Henry Deas Lesesne.....	Mobile.
John Maples.....	Russell.
William Christopher Martin.....	Barbour.
Enoch Marvin Mason.....	Lee.
James Hardie McGehee.....	Montgomery.
Kenneth Bethune McKenzie.....	Butler.
Graham Edwin Merchant.....	Lee.
Edward Andrew Miller.....	Marshall.
William Livingston Neill.....	Jefferson.
Charles Wellington Nixon.....	Tennessee.
William Forney Osburn.....	Lee.

Hiram Perry Powell.....	Georgia.
Fleming James Rigney.....	Madison.
James Richard Rutland.....	Chambers.
William Stowe Rutledge.....	Lee.
Frederick Blount Shepard.....	Mobile.
Mary Robbins Sampey.....	Conecuh.
John Winfred Shuff.....	Talladega.
Joseph Manning Steiner.....	Butler.
Horace Ware.....	Calhoun.
Moses Conrad Wright.....	Macon.

JUNIOR CLASS.

Robert Tanner Arnold.....	Florida.
Berschall Winston Bass.....	St. Clair.
Frank Carlisle Bivings.....	Georgia.
Kenneth Bradford.....	Montgomery.
Thomas Bragg.....	Lee.
Samuel Hamner Browne.....	Tuskaloosa.
Salmon Holmes Burns.....	Lee.
John Isham Dorsey.....	Lee.
William Hamilton Eagar.....	Winston.
Eugene Flynn Enslin.....	Jefferson.
LeRoy Madison Felton.....	South Carolina.
John Drewry Foy.....	Barbour.
William Alexander Frazer (c).....	Lee.
James Olney Goggans.....	Tallapoosa.
Walter Lee Greene.....	Lee.
William Hope Haigler.....	Montgomery.
Paul Shields Haley.....	Walker.
Leslie Murphy Hand.....	Sumter.
Alexander Cameron Hannon.....	Montgomery.
Michael Smith Harvey (c).....	Lee.
Charles Henry Haynes.....	Bullock.
Daniel Hagood Haynes.....	Dallas.
James Kelly Haynie.....	Montgomery.

(c) Conditioned.

Arber Samuel Hertz.....	Georgia.
Robert Holland Hood.....	Jefferson.
Arthur Flournoy Jackson.....	Georgia.
James Baxter Jackson.....	Lee.
Jefferson Franklin Jones.....	Sumter.
Myron Daniel Kahn.....	Lee.
Claude Kauffman.....	Mobile.
Emmett Stephens Killebrew.....	Dale.
William Reid Lancaster.....	Lee.
John Talbert Letcher.....	Macon.
Karl Edward Lindrose.....	Mississippi.
Daniel Stacy Martin.....	Barbour.
Walter Deems McCrary.....	Lee.
William Boyd McGehee.....	Montgomery.
Benjamin Baldwin Meriwether.....	Montgomery.
Abram Hill Mitchell.....	Lee.
Isaac Lenoir Moore.....	Lee.
Merrill Hastings Moore.....	Montgomery.
William Louis Noll.....	Tennessee.
Dorsey Julian Parker.....	Escambia.
James Cochran Phelps.....	Lee.
James Blackmon Powell.....	Bullock.
Shepherd Harrison Roberts.....	Montgomery.
Oscar Menderson Schloss.....	Morgan.
Lyman Hall Shaw.....	Sumter.
Henry Alexander Skeggs.....	Morgan.
John Hunt Skeggs.....	Morgan.
Matthew Scott Sloan.....	Mobile.
Holland McTyeire Smith.....	Lee.
Louis Sternfeld.....	Montgomery.
Godfrey Rhodes Thomas.....	Sumter.
Manly Curry Turpin.....	Virginia.
Henry Edward Werner.....	Texas.
Leonidas Wharton.....	Cherokee.
Gaius Whitfield.....	Marengo.
Jere Crawford Williams.....	Lee.

John Rutledge Williams.....Jefferson.
Edward Houston Wills.....Lee.

SOPHOMORE CLASS.

Oliver Hannibal Alford.....Marshall.
William Warren Askew.....Georgia.
Charles Homer Billingsley.....Elmore.
Ellerslie Wallace Bullard.....Calhoun.
Victor Hugo Clements.....Limestone.
William Cruse Coles.....Marshall.
Clyde Allen Collins.....Hale.
Robert Geoghegan Dawson.....Montgomery.
Jesse Duncan Elliott.....Minnesota.
Marvin Ellis.....Morgan.
James Douglas Farley.....Lee.
Clarence Edmund Feagin.....Bullock.
David Fleming (c).....Montgomery.
Harold LaVan Fitch.....Wilcox.
William Peace Gaddis.....Elmore.
James Browder Garber.....Hale.
William Holt Glenn.....Lee.
Arthur Rodfer Gray.....Florida.
Jeremiah Warren Gwin.....Jefferson.
William Houston Gwin.....Jefferson.
William Bulger Hamilton.....Elmore.
Clifton Duane Haynie.....Lee.
William Tillman Heard.....Lee.
Oscar Lynn Henry.....Marshall.
Franklin Jerome Houston.....Jefferson.
Mell Frazer Jackson.....Lee.
Collins James Johnson.....Missouri.
Albert Sidney Johnson.....Colbert.
Morris Ketchum.....New York.
James Allen Kyser.....Dallas.
Richard Hartwell King.....Colbert.
Martin James Lide.....Dallas.

(c) Conditioned.

Gaston Joel Lipscomb.....	Marengo.
Earle Irwin McBryde.....	Wilcox.
Henry Bigham Park.....	Georgia.
Douglass Welles Peabody.....	Mobile.
William Marcus Peters.....	Perry.
Edgar Johnson Pierce.....	Bullock.
Wallace Powers Pruitt (c).....	Lowndes.
Daniel Syers Robertson.....	Chambers.
Richard Blount Shepard.....	Mobile.
Julian Cassius Smith (c).....	Mobile.
George Waddell Snedecor.....	Jefferson.
William Swift Sherrill.....	Limestone.
Siddons Stollenwerck.....	Perry.
John Griffin Swanson.....	Macon.
Enrico Alfonso Washington.....	Georgia.
Clifford Noble Wallace.....	Elmore.
John Osceola Webb.....	Webb.
Walker Dorr Willis.....	Florida.
Forney Renfro Yarbrough.....	Georgia.
John Eyres Davis Yonge.....	Florida.

FRESHMAN CLASS.

Auber Faust Adams.....	Montgomery.
George Whitfield Allen.....	Jefferson.
Albert Miner Avery.....	Florida.
Earnest Stakely Ayers.....	Calhoun.
Adolphus Berry.....	Tallapoosa.
Marshall Leonard Bize... ..	Georgia.
Johnson Wilson Black (c).....	Mobile.
Wallace Edward Brewster.....	Georgia.
Cecil Battle Brown.....	Pike.
Edward Jeffeson Bruister.....	Choctaw.
William Jefferson Bruister (c).....	Choctaw.
John Mangum Buchanan.....	Lee.
Harry Walter Campbell.....	Tennessee.
Walter Brooks Cawthon (c).....	Mobile.
Louis Hamburger Chandler (c).....	Montgomery.

(c) Conditioned.

William Julius James Chase (c)	Georgia.
Dudley Chipley	Florida.
Earl Cline	Jefferson.
Sidney Cornell	Jefferson.
Charles Sanders Culver	Lee.
Oscar Fitzalen Cunningham (c)	Lee.
Travers Daniell	Etowah.
William Abler Darden	Calhoun.
Howard Ellis Davis	Mobile.
William Watson Davis	Mobile.
Thomas Joseph Dowdell	Montgomery.
William Eugene Finch	Florida.
James William Flanagan	Lee.
Frank Flinn	Montgomery.
John Hope Fuller (c)	Escambia.
Horace Bright German (c)	Tennessee.
Charles Belshaw Goldthwaite	Pike.
William Lanier Halsey	Madison.
Henry Clift Hawkins	Lee.
Earnest Cecil Haynie	Lee.
Bell George Hazard	Calhoun.
George Bloise Hill	Talladega.
Alexander Grice Horn	Sumter.
Charles Henry Howle	Calhoun.
William Dana Hubbard	Dallas.
John Blevins Hudnall	Kentucky.
Garrett Newton Hudmon	Lee.
John David Hudson	Lee.
James Daughtry Hudson	Georgia.
Frank Edward Hunt	Jefferson.
Arthur Jacobs	Jefferson.
Albert Jefferson	Georgia.
Walter Henry Jones	Pike.
Ira LaFayette Jordan	Elmore.
William Micou Jordan	Elmore.

(c) Conditioned.

William George Karnathan.....	Choctaw.
Roy Kauffman.....	Mobile.
Walter Joseph Knight.....	Mobile.
Oscar Jennings Knox (c).....	Lee.
Carl Lay.....	Etowah.
Percy McLean Marshall.....	Georgia.
John Van Valkenburg Matthews.....	Madison
Thomas Hatcher Matson.....	Talladega.
Ernest Linnwood Maybery.....	Macon.
Allen Davis McLain.....	Lee.
Louis Hunt McCants (c).....	Louisiana.
Christian McDevitt.....	Pennsylvania.
Henry Miller.....	Escambia.
Roscoe Milner (c).....	Georgia.
Robert Peyton Mims (c).....	Jefferson.
John Harris Mitchell.....	Georgia.
William Lee Mitchell.....	Madison.
Frank Wallace Moseley.....	Dallas.
Gilbert Meyer Newhouse (c).....	Marengo.
Erastus Jonathan Parsons.....	Jefferson.
Christopher Henderson Pinson.....	Sumter.
Albert Wellman Pratt (c).....	Madison.
Gregg Newton Preuit.....	Lawrence.
Russell Bates Preuit.....	Lawrence.
Albert Davis Rambo.....	Montgomery.
George Daniel Randle.....	Jefferson.
James Henry Ramdle.....	Bullock.
John Patrick Rembert.....	Mississippi.
Samuel Rembert.....	Tennessee.
Roy Gustavus Rhodes.....	Marengo.
Tod Hewitt Roberts.....	Jefferson.
Nelson Horatio Romero.....	Cuba.
Wilbur Barnes Roney (c).....	Macon.
Irving Jefferies Roseborough.....	Bullock.
John Van Ryan.....	Madison.
Edward Prescott Rutland.....	Lee.

(c) Conditioned

William Watson Rutland.....	Chambers.
Clifford Philip Rutledge.....	Lee.
George Washington Smith.....	Lee.
Benjamin Marion Smith.....	Cherokee.
Quinton Sorrell.....	Talladega.
Edward Taylor.....	Marengo.
Louis Earle Thornton.....	Florida.
William Lawson Thornton.....	Talladega.
James Feagin Tompkins.....	Lee.
Filo Harris Turner.....	Florida.
George Baker Tyson.....	Montgomery.
Ivy Whitson Walker.....	Colbert.
Fletcher Peavy Whatley.....	Lee.
Walter Whitman (c).....	Lee.
Walter Harry Wiley.....	Pike.
Henry Mathews Yonge.....	Florida.

SPECIAL AND IRREGULAR STUDENTS.

Abbreviations: Ph—Pharmacy; E. & M. E.—Electrical and Mechanical Engineering; C.—Chemistry; Ag.—Agriculture; C. E.—Civil Engineering; M. A.—Mechanic Arts.

NAME.	RESIDENCE.
Milton Columbus Baldrige.....	PH.....Madison.
Idaline Bell.....	Lee.
Arthur Bernard Beringer.....	PH.....Barbour.
Parham Benjamin Borden.....	Hale.
Peter Alexander Brannon.....	PH.....Russell.
Walter Leslie Bryant.....	PH.....Georgia.
William James Cameron.....	M. A.....Jefferson.
Fredrico Cardenas.....	Cuba.
Arthur Ernest Carter.....	PH.....Shelby.
Edwin Weaver Caro.....	M. A.....Florida.
David James Castleman.....	E. & M. E.....Hale.
Herschel Henry Conner.....	Macon.
Lewis Henry Crumpler.....	PH.....Talladega.
Pearce Henry DeBardelaben.....	PH.....Lee.
Warren Alfred Dewees.....	Tennessee.
(c) Conditioned.	
Rufus White Butler.....	Lee.

William Edwards.....	AG.....	Florida.
William Bullock Fleming.....		Montgomery.
Ingraham Barron Foster.....		Perry.
John Sears Francis.....		Jefferson.
Swoope Darrow Gilbert.....	E. & M. E..	Lauderdale.
Frank Crouch Green.....		Georgia.
Edward Putney Guerrant.....	AG.....	Kentucky.
Abram Debow Given.....	PH.....	Madison.
William Weatherly Hannon.....		Montgomery.
Bunn Young Hill.....		Georgia.
Blair Hughes.....		Jefferson.
Edwin DeWitt Huguley.....		Chambers.
Clarence Luther Jenkins.....		Talladega.
Edward Kelly.....		Montgomery.
Carlos Lacayo.....		Nicaragua, C. A.
John Alexander Lanford.....	PH.....	Sumter.
John Fulton Lanier.....		Madison.
Howard Metcalf Letcher.....	PH.....	Macon.
Mary Emma Little.....		Lee.
Thomas Leonard Macon.....		Elmore.
George Mathews Marks.....		Montgomery.
Oliveria Masvidal.....	MA.....	Cuba.
Mary Elinor Mitchell.....		Calhoun.
James Crowder Moore.....	PH.....	Lee.
Martin Theopilus Moody.....	PH.....	Calhoun.
James Frazer McNamee.....		Lee.
Peter Preer Myhand.....	VET. SCI.....	Lee.
Carlyle Nisbet.....	E. & M. E.....	Georgia.
Walter Cornelius O'Neill.....		Sumter.
Elbert William Patterson.....		Sumter.
William Burns Paterson.....	AG. & H..	Montgomery.
Morris Pelham.....	E. & M. E.....	Calhoun.
Israel Pickens.....	PH.....	Hale.
Walter Gardner Pitts.....		Russell.
Henry Virgil Reid.....	PH.....	Barbour.

Alston Keith Rennie.....	PH.....	Dallas.
Harvey Owen Sargent.....		Franklin.
Wilbur Allen Sellers.....		Bullock.
George Clement Sequeira.....		Nicaragua, C. A.
Hans Schmidt.....		Jefferson.
Maurice Carbery Shannon.....		Jefferson.
Sidney Ewing Simpson.....	E. & M. E.	Montgomery.
Walter Ellis Sistrunk.....	PH.....	Elmore.
Bernard Horace Smith.....	PH.....	Lee.
Henry Sleeth Stickle.....		Lauderdale.
Richard Franklin Valentine....	E. & M. E....	Barbour.
Judson Franklin Webb.....		Calhoun.
James Waldo Woodruff.....	E. & M. E....	Georgia.

SUB-FRESHMAN CLASS.

Raymond Albertson.....		Jefferson.
Jesse Drew Beale.....		Montgomery.
Frank Gordon Bell.....		Lee.
William Bell.....		Lee.
Marvin Fitzpatrick Boykin.....		Lee.
Edward Worswick Braswell.....		Georgia.
Richard Young Buchanan.....		Georgia.
Frank Turner Cammack.....		Mobile.
William Henry Chambers.....		Colbert.
John David Foshee.....		Escambia.
Thomas Claud Hawkins.....		Elmore.
Percy Wilbur Hudson.....		Lee.
William Inman Huff.....		Etowah.
Arthur Dean Jones.....		Lawrence.
Woodson Jones.....		Dallas.
Edward James Lane.....		Talladega.
Thomas Reeves Leavell.....		Greene.
Frank Gordon Lyon.....		Lowndes.
Andrew Lee Martin.....		Lee.

Richard Matthews.....	Jefferson.
Howard Wilbur McMakin.....	Russell.
Heywood McFaddin.....	Dallas.
Edward Adolphus Miles.....	Mobile.
Welton Nabors *.....	Shelby.
Enoch Lawrence McCormick Pruitt.....	Lowndes.
Pope Pryor Preuit.....	Colbert.
Forney Renfro.....	Lee.
Richard Hoskins Roberts.....	Sumter.
Oscar Early Rutland.....	Lee.
John Deal Steele.....	Greene.
Benjamin Marion Stewart.....	Cherokee.
Henry Jefferson Sullivan.....	Washington.
John Hughes Thomason.....	Calhoun.
Dudley Chipley Thornton.....	Florida.
George Taylor Williamson.....	Lee.
Jacob Wolff.....	Montgomery.
Forney Renfro Wright.....	Lee.

SUMMARY.

Graduates.....	11
Senior Class.....	56
Junior Class.....	60
Sophomore Class....	52
Freshman Class.....	102
Special and Irregular Students.....	65
Total in College Classes.....	346
Sub-Freshman Class.....	38
Total.....	384

* Deceased.

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English.....	316	Geology.....	55
History.....	205	Civil Engineering.....	12
French.....	28	Electrical Engineering.	61
German.....	33	Mechanical Engineer'g.	57
Latin.....	137	Biology.....	24
Mental Science	26	Drawing.....	230
Political Economy.....	53	Mechanic Arts.....	258
Mathematics.....	293	Military Tactics.....	344
Chemistry.....	156	Mineralogy.....	19
Chemical Laboratory..	141	Physical Laboratory...	42
Agriculture.....	128	Physiology.....	55
Physics.....	187	Veterinary Science....	39
Botany.....	82	Pharmacy.....	37
Horticulture.....	33	Bacteriology.....	11

RESIDENCE.

Alabama.....	318
Georgia.....	26
Florida.....	15
Tennessee.....	7
Cuba.....	3
Nicaragua.....	2
Kentucky.....	2
Mississippi.....	2
Louisiana.....	2
South Carolina.....	2
Missouri.....	1
Texas.....	1
Virginia.....	1
Pennsylvania.....	1
New York.....	1

MILITARY ORGANIZATION.

1899-1900.

President.

W. L. BROWN.

Commandant.

COL. B. S. PATRICK.

Surgeon.

J. H. DRAKE.

Battalion Staff.

Cadet Captain H. P. POWELL, Assistant to Commandant.

Cadet 1st Lieutenant J. J. FLOWERS, Adjutant.

Cadet 1st Lieutenant J. W. SHUFF, Quartermaster.

Cadet 2nd Lieutenant E. M. MASON, Assistant Adjutant.

Cadet Sergeant J. D. FOY, Sergeant Major.

Cadet Sergeant G. WHITFIELD, Quartermaster Sergeant.

Cadet Captains.

1. F. ASHCRAFT,

3. W. E. KELLY,

2. G. F. BOYD.

4. J. L. BURKE.

Cadet First Lieutenants.

1. K. B. MCKENZIE,

5. R. B. HALL,

2. J. P. ILLGES,

6. J. W. BOYD,

3. A. C. CAMERON,

7. C. W. NIXON,

4. J. H. MCGEHEE,

8. W. L. ANDERSON.

Cadet Second Lieutenants.

1. S. D. GILBERT,

4. W. C. DOWDELL,

2. R. S. FINCH,

5. M. M. BROOKS.

3. J. A. LANFORD,

Cadet First Sergeants.

1. S. H. ROBERTS,

3. M. S. SLOAN,

2. A. F. JACKSON,

4. E. H. WILLS.

Cadet Sergeants.

1. M. H. MOORE,

10. R. T. ARNOLD,

2. W. B. MCGEHEE,

11. G. R. THOMAS,

3. J. B. POWELL,

12. C. H. HAYNES,

4. W. L. GREENE,

13. D. J. PARKER,

5. P. S. HALEY,

14. D. H. HAYNES,

6. M. C. TURPIN,

15. T. BRAGG,

7. B. B. MERIWETHER (Color Sergeant)

16. J. T. LETCHER,

8. I. L. MOORE,

17. W. R. LANCASTER,

9. F. C. BIVINGS,

18. E. S. KILLEBREW.

Cadet Corporals.

- | | |
|--------------------|----------------------|
| 1. W. D. WILLIS. | 10. R. B. SHEPARD. |
| 2. J. E. D. YONGE. | 11. H. B. PARK. |
| 3. J. A. KYSER. | 12. D. W. PEABODY. |
| 4. J. D. ELLIOTT. | 13. R. G. DAWSON. |
| 5. W. M. ASKEW. | 14. J. D. FARLEY. |
| 6. G. W. SNEDECOR. | 15. F. J. HOUSTON. |
| 7. C. A. COLLINS. | 16. M. KETCHUM. |
| 8. J. B. GARBER. | 17. S. STOLLENWERCK. |
| 9. W. C. COLES. | |

THE A. P. I. CADET BAND.

M. THOS. FULLAN, Bandmaster.
J. A. LANFORD, Principal Musician.

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|----------------|----------------|
| A. M. AVERY. | M. D. KAHN. |
| F. C. BIVINGS. | M. F. KAHN. |
| W. J. CAMERON. | D. W. PEABODY. |
| T. DANIEL. | E. J. PIERCE. |
| W. A. DEWEES. | G. SEQUIERA. |
| M. ELLIS. | L. STERNFELD. |
| W. H. GLENN. | I. W. WALKER. |
| A. JEFFERSON. | H. E. WERNER. |
| I. L. JORDAN. | |

R. T. ARNOLD, Drum Major.

Cadets of the Graduating Class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

- A. ST. C. DUNSTAN.
B. H. CRENSHAW.
A. J. BURR.

1890.

- F. D. MILSTEAD.
J. W. BIVINS.
G. W. EMORY.

1891.

- L. E. BAKER.
C. C. JOHNSON.
F. J. BIVINS.

1892.

- H. F. DOBBIN.
A. L. JONES.
C. L. BROWN.

1893.

- Joel Dumas.
C. H. SMITH.
J. F. WEBB.

1894.

- C. S. ANDREWS.
P. P. McKEOWN.
R. T. DORSEY.

1895.

- S. L. COLEMAN.
H. H. SMITH.
L. B. GAMMON.

1896.

- A. L. ALEXANDER.
W. L. FLEMING.
W. M. WILLIAMS.

1897.

- P. G. CLARK.
G. M. HOLLEY.
G. N. MITCHAM.

1898.

- A. H. CLARK.
A. McB. RANSOM.
Jno. HARALSON.

1899.

- I. F. McDONNELL.
A. H. FEAGIN.
T. W. WERT.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition in 1900 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby*; (2) Southey's *Life of Nelson*; (3) Shakespeare's *Julius Caesar*; (4) Longfellow's *Evangeline*; (5) Scott's *Ivanhoe*; (6) Shakespeare's *Merchant of Venice*; (7) Irving's *Sketch Book*; (8) Macaulay's *Essay on Milton*; (9) Scott's *Marmion*; (10) Dickens's *David Copperfield*.

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended to test only a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Cæsar* and the *Essay on Milton*.

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors and fractions*; one book of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Cæsar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father*, *ā* as the *a* in *Cuba*; *ē* as in *prey*, *ẽ* as in *men*; *ī* as in *machine*, *ĩ* as in *cigar*; *ō* as in *old*, *õ* as in *obey*; *ū* as in *rule*, *ũ* as in *full*; *j* as *y* in *yard*; *c* always as *k* in *king*; *g* always as *g* in *get*.

For admission to the higher classes, students should be prepared to stand a satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through logarithms in Algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on those subjects.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the freshman class *without examination* upon the certificate of the president or principal showing definitely that such students have completed satisfactorily all the studies required for admission, as stated in the catalogue and are otherwise admissible."

The privilege of admitting students to the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A....., B..... has attended the (*name the school or academy*) for..... years and has studied the following subjects:

in History.....(*name the books*)
 in English.....(*name the books*)
 in Algebra.....(*state amount accomplished*)
 in Geometry.....(*state amount accomplished*)
 in Latin.....(*state books read*)

and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to the.....class, I recommend him for the same.

CERTIFICATE SCHOOLS.

University Military School, Mobile.....J. D. Wright.
 Verner Military Institute, Tuscaloosa.....W. H. Verner.
 University School, Montgomery.....J. M. Starke.
 Mt. Willing High School, Mt. Willing.....
 State Normal School, Jacksonville.....C. W. Dugette.
 Male Academy, Huntsville.....Purveyer & Wyatt.
 Furman Academy, Livingston.....L. A. Cockrell.
 High School, Opelika.....J. M. Smallwood.
 University Military School, Clanton.....E. Y. McMorries.
 N. A. Agricultural School, Athens.....M. K. Clements.
 W. Ala. Agricultural School, Hamilton.....
 Eutaw Male Academy, Eutaw.....H. C. Horton.
 Boys' High School, Anniston.....H. C. Gunnels.
 Taylor's School, Birmingham.....W. P. Taylor.

Gaylesville High School.....	John R. Ray.
Carrollton Academy.....	L. V. Rosser.
Ninth District Agricultural School, Blountsville.....	
Gadsden High School.....	I. W. Hill.
Boyd High School, Ramer.....	B. H. Boyd.
Dadeville High School.....	J. D. Lane.
Prattville High School.....	A. W. Holstun.
Eufaula High School.....	F. L. McCoy.
Union Springs High School.....	J. M. Sanders.
Montgomery High School.....	C. L. Floyd.
Calera Academy.....	C. C. Slaton.
Southern Agricultural School, Abbeville.....	J. V. Brown.

ADMISSION OF YOUNG WOMEN

The privilege of becoming students in this college is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be eighteen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects as named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Genung's Outlines of Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 34.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Analytic Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translation of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

Botany will constitute a required part of the general course for young women who are candidates for a degree.

When admitted, upon complying with the conditions above stated,

they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

The Trustees authorize the Faculty to admit a candidate for a degree at the age of seventeen, provided she is able to comply with all the requirements for admission in the four subjects named and the application meets with its approval.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 12th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are fifteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the Freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing, and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents. The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified; and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may be qualified.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, English, mathematics, or Latin, and if his examination is satisfactory in any subject, he will be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science; Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

These studies are arranged in regular courses so as to offer a liberal and practical education as a preparation for the active pursuits of life.

There are five degree courses for undergraduates, each leading to the degree of Bachelor of Science, (B. Sc.) and requiring four years for its completion.

- I. COURSE IN CHEMISTRY AND AGRICULTURE.
- II. COURSE IN CIVIL ENGINEERING.
- III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.
- IV. GENERAL COURSE.
- V. COURSE IN PHARMACY.

There are also three partial courses, each requiring two years for its completion:

- VI. TWO-YEAR COURSE IN AGRICULTURE.
- VII. TWO-YEAR COURSE IN MECHANIC ARTS.
- VIII. TWO-YEAR COURSE IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose

to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of the sciences that directly relate to civil engineering, and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Courses VI. VII. VIII. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second *term* of the Senior year.

Declamation and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

The post-graduate degrees are—MASTER OF SCIENCE, MINING ENGINEER, CIVIL ENGINEER, ELECTRICAL AND MECHANICAL ENGINEER, AND PHARMACEUTICAL CHEMIST.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidates must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination at the close of each term on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st, and the thesis given to the professor by April 1st.

Applicants for post-graduate degrees are subject to the general regulations as other students, but are exempt from all military duty.

The following courses are prescribed for the degrees named:

Mining Engineer.—Students who have received the degree of B. Sc. in engineering, civil, or electrical and mechanical, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the applications of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated.

This course of study will be under the charge of the professors of geology, chemistry, civil, electrical and mechanical engineering.

Civil Engineer.—Civil Engineering, Mathematics, Analytical Mechanics.

Electrical and Mechanical Engineer.—Electrical Engineering, Mechanical Engineering.

Pharmaceutical Chemist.—Pharmacy and Chemistry.

Master of Science.—Studies in three departments, in two of which the candidates must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in one or two departments.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subject in which instruction is given may, when qualified, with approval of the faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

PHOTOGRAPHY.

During the session there will be given by Professor Mell a course of twelve lectures on photography. This course will be elective, and the instruction will be open to any student that may desire to learn how to make pictures. It will be necessary for each student to provide himself with an outfit that will cost from \$11.50 to \$16.00.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

- I. CHEMISTRY.
- II. CIVIL ENGINEERING, FIELD WORK, SURVEYING,
ETC.
- III. AGRICULTURE.
- IV. BOTANY.
- V. MINERALOGY.
- VI. BIOLOGY.
- VII. TECHNICAL DRAWING.
- VIII. MECHANIC ARTS.
- IX. PHYSICS.
- X. ELECTRICAL ENGINEERING.
- XI. MECHANICAL ENGINEERING.
- XII. PHYSIOLOGY AND VETERINARY SCIENCE.
- XIII. PHARMACY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I.—COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

First Term.

5. English.
2. History.
5. Mathematics.
3. Elementary Physics.
3. Drawing.
6. Mechanic Art Lab'y.
3. Military Drill.

Second Term.

5. English.
2. History.
5. Mathematics.
3. Elementary Physics.
3. Drawing.
6. Mechanic Art Lab'y.
3. Military Drill.

Third Term.

5. English.
2. History.
5. Mathematics.
2. Agriculture.
3. Drawing.
6. Mechanic Art Lab'y.
3. Military Drill.

SOPHOMORE CLASS.

First Term.

3. English.
3. History.
3. General Chemistry.
2. Agriculture.
3. Drawing.
2. Physiology.
6. Mechanic Art Lab'y.
3. Military Drill.

Second Term.

3. English.
3. History.
3. General Chemistry.
2. Agriculture.
3. Drawing.
2. Physiology.
6. Mechanic Art Lab'y.
3. Military Drill.

Third Term.

3. English.
3. Botany (a).
3. General Chemistry.
2. Agriculture (b).
3. Drawing.
2. Physiology.
6. Mechanic Art Lab'y.
3. Military Drill.

JUNIOR CLASS.

First Term.

3. English.
3. Physics.
3. Industrial Chemistry.
2. Agriculture.
4. Botany (Lab'y).
1. Military Tactics.
9. Chemical Lab'y.
2. Veterinary Science.
2. Clinical Lab'y.
3. Military Drill.

Second Term.

3. English.
3. Physics.
3. Industrial Chemistry.
2. Agriculture.
4. Botany (Lab'y).
1. Military Tactics.
9. Chemical Lab'y.
2. Veterinary Science.
2. Clinical Lab'y.
3. Military Drill.

Third Term.

3. English.
3. Physics.
3. Industrial Chemistry.
2. Agriculture (b).
4. Botany (Lab'y).
1. Military Tactics.
9. Chemical Lab'y.
2. Veterinary Science.
2. Clinical Lab'y.
3. Military Drill.

SENIOR CLASS.

First Term.

2. English Literature.
2. Mental Science (d).
2. Physics.
2. Geology.
5. Biology.
2. Agricultur'l Ch'm't'y.
1. Military Science.
9. Chemical Lab'y.
2. Veterinary Science.
2. Clinical Lab'y.

Second Term.

2. Political Econo'y (c).
2. Mental Science (d).
2. Astronomy.
2. Geology.
5. Biology.
2. Agricultur'l Ch'm't'y.
1. Military Science.
9. Chemical Lab'y.
2. Veterinary Science.
2. Clinical Lab'y.

Third Term.

2. Political Economy.
2. Mental Science (d).
2. Astronomy.
2. Geology.
5. Biology.
2. Agricultur'l Ch'm't'y.
1. Military Science.
9. Chemical Lab'y.
2. Veterinary Science.
2. Clinical Lab'y.

(a) Begins March 1st.

(b) Also Practical Agriculture.

(c) Begins Feb. 15th.

(d) French or German may be substituted.

NOTE.—“There should be in the schedule of the Sophomore Class —“Mathematics, 5 exercises for each term.”

II.—COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y, Mech. Arts (c)	6. Lab'y, Mech. Arts (c)	6. Lab'y, Mech. Arts (c)
1. Field Work, Engin'g.	1. Field Work, Engin'g.	1. Field Work, Engin'g.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature (d)	2. Political Economy (d)	2. Political Economy (d)
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.

(a) Begins March 1st.

(b) For Agriculture may be substituted Physical Laboratory.

(c) Or Mineralogy.

(d) For Eng. Lit. and Pol Econ. may be substituted French or German.

5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.
Field Work, Engin'g.	Field Work, Engin'g.	Field Work, Engin'g.

III.—COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number hours per week.
In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engin'g.	4. Electrical Engin'g.	4. Electrical Engin'g.
3. Mech. Engineering.	3. Mech. Engineering.	3. Mech. Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. Eng. Literature (a).	2. Political Econo'y (a)	2. Political Econo'y (a)
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engin'g.	5. Electrical Engin'g.	5. Electrical Engin'g.
5. Mech. Engineering.	5. Mech. Engineering.	5. Mech. Engineering.
2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV.—GENERAL COURSE.

The numerals opposite the subjects indicate number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
2. History.	2. History.	2. History.
5. Latin.	5. Latin.	5. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y Work (b).	6. Lab'y Work (b).	6. Lab'y Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature.	2. Political Econo'y (c)	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y Work (b).	6. Lab'y Work (b).	6. Lab'y Work (b).

(a) Begins March 1st.

(b) The student may elect the laboratory of any department for which he may be qualified.

(c) Begins February 15th.

V.—COURSE IN PHARMACY.

The numerals opposite the subjects indicate number of hours per week.

FRESHMAN CLASS.

First Term.

3. English.
2. History.
5. Latin.
5. Mathematics.
3. Drawing.
6. Mech. Art Lab'y.
3. Military Drill.

Second Term.

3. English.
2. History.
5. Latin.
5. Mathematics.
3. Drawing.
6. Mech. Art Lab'y.
3. Military Drill.

Third Term.

3. English.
2. History.
5. Latin.
5. Mathematics.
3. Drawing.
2. Agriculture.
6. Mechanic Arts.
3. Military Drill.

SOPHOMORE CLASS.

First Term.

5. Latin.
3. History.
5. Mathematics.
3. General Chemistry.
2. Physiology.
3. Drawing.
6. Mech. Art Lab'y.
2. Chemical Lab'y.
3. Military Drill.

Second Term.

5. Latin.
3. History.
5. Mathematics.
3. General Chemistry.
2. Physiology.
3. Drawing.
6. Mech. Art Lab'y.
2. Chemical Lab'y.
3. Military Drill.

Third Term.

5. Latin.
3. Botany (a).
5. Mathematics.
3. General Chemistry.
2. Physiology.
3. Drawing.
6. Mech. Art Lab'y.
2. Chemical Lab'y.
3. Military Drill.

JUNIOR CLASS.

First Term.

3. Physics.
6. Chemical Lab'y.
4. Botanical Lab'y.
3. English (a).
3. Pharmacy.
9. Pharmaceutical Lab.
4. Pharmacognosy.
1. Military Tactics.
3. Military Drill.

Second Term.

3. Physics.
6. Chemical Lab'y.
4. Botanical Lab'y.
3. English (a).
3. Pharmacy.
9. Pharmaceutical Lab.
4. Pharmacognosy.
1. Military Tactics.
3. Military Drill.

Third Term.

3. Physics.
6. Chemical Lab'y.
4. Botanical Lab'y.
3. English (a).
3. Pharmacy.
9. Pharmaceutical Lab.
4. Pharmacognosy.
1. Military Tactics.
3. Military Drill.

SENIOR CLASS.

First Term.

5. Biology.
6. Chemical Lab'y.
5. Pharmacy.
8. Pharmaceutical Lab.
5. Pharmacognosy.
1. Military Science.
3. Materia Medica.

Second Term.

5. Biology.
6. Chemical Lab'y.
5. Pharmacy.
8. Pharmaceutical Lab.
5. Pharmacognosy.
1. Military Science.
3. Materia Medica.

Third Term.

5. Biology.
6. Toxicology.
5. Pharmacy.
8. Pharmaceutical Lab.
5. Pharmacognosy.
1. Military Science.
3. Bacteriology.

(a) Begins March 1st.

(a) French or German may be substituted.

VI—TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

VII—TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.
2. Practical Agricult're.	2. Practical Agricult're.	2. Practical Agricult're.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
4. Agriculture.	4. Agriculture.	4. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
12. Practical Agricult're.	12. Practical Agricult're.	12. Practical Agricult're.
3. Military Drill.	3. Military Drill.	3. Military Drill.

VIII—TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

First Term.

3. General Chemistry.
2. Chemical Lab'y.
3. English.
2. Physiology.
3. Pharmacy.
4. Pharmacognosy.
6. Mech. Art Lab'y. (a)
3. Military Drill.

Second Term.

3. General Chemistry.
2. Chemical Lab'y.
3. English.
2. Physiology.
3. Pharmacy.
4. Pharmacognosy.
6. Mech. Art Lab'y. (a)
3. Military Drill.

Third Term.

3. General Chemistry.
2. Chemical Lab'y.
3. Botany.
2. Physiology.
3. Pharmacy.
4. Pharmacognosy.
6. Mech. Art Lab'y. (a)
3. Military Drill.

SECOND YEAR.

First Term.

5. Pharmacy.
5. Pharmacognosy.
8. Pharmaceutical Lab.
6. Chemical Lab'y.
3. Materia Medica.
6. Botanical Lab'y.
3. Military Drill.

Second Term.

5. Pharmacy.
5. Pharmacognosy.
8. Pharmaceutical Lab.
6. Chemical Lab'y.
3. Materia Medica.
6. Botanical Lab'y.
3. Military Drill.

Third Term.

5. Pharmacy.
5. Pharmacognosy.
8. Pharmaceutical Lab.
7. Toxicology.
3. Bacteriology.
6. Botanical Lab'y.
3. Military Drill.

(a) or Physical Laboratory.

SCHEDULE OF EXERCISES.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
I. 8-9	4. Algebra. 3. Latin. 1 and 2 Drawing. 1. Elec. Engineer'g 2. Mec. Engineer'g 1. Biology. 1. German.	3. Physiology. 4. Geometry. 3. Latin. 2. German. 1 and 2 Drawing. 2. Botany 1. Elec. Engineer'g 1. Elec. Engineer'g 2. Mec. Engineer'g 1. Mental Science.	4. Algebra. 3. Latin. 1 and 2 Drawing. 1. Vet. Science. 1. Elec. Engineer'g 1. German.	4. Geometry. 3. Latin. 2. German. 1 and 2 Drawing. 2. Botany. 1. Mental Science. 1. Elec. Engineer'g	4. Algebra. 3. Latin. 1 and 2 Drawing. 1. Veterinary Sci. 1. Elec. Engineer'g. 1. German.	Exercises in Elocuti'n.
II. 9-10	4. English. 3. Chemistry. 2. Civ. Engineer'g 2. Latin. 1. Calculus. 1. Biology. 2. Elec. Engineer'g	4. History. 3. Agriculture. 2. Civ. Engineer'g 2. Botany. 1. Physics. 2. Elec. Engineer'g	4. English. 3. Chemistry. 2. Civ. Engineer'g 2. Latin. 1. Calculus. 2. Vet. Science. 2. Elec. Engineer'g	4. History. 3. Agriculture. 2. Civ. Engineer'g. 2. Botany. 1. Physics. 2. Elec. Engineer'g	4. English. 3. Chemistry. 2. Civ. Engineer'g 2. Latin. 1. Calculus. 2. Mech. Engineer'g 2. Vet. Science.	Military Drill.
III. 10-11	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Biology. 1. Latin. 1. Mec. Engineer'g	3. History (1, 2). 3. Botany (2, 3). 1. Biology. 1. Civ. Engineer'g 4. English. 1. Mec. Engineer'g 2. French. 2. Mec. Drawing.	3. English. 2. Physics. 1. Latin. 1. Civ. Engineer'g 1. Biology. 1. Mec. Engineer'g	3. History (1, 2). 3. Botany (2, 3). 1. Civ. Engineer'g 4. English. 1. Mech. Engineer'g 2. French.	3. English. 2. Physics. 1. Civ. Engineer'g. 4. History (3). 1. Mech. Engineer'g	Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.

SCHEDULE OF EXERCISES—Continued.

ALABAMA POLYTECHNIC INSTITUTE.

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HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
IV.	4. Physics (1, 2).	4. Latin. 3. Drawing.	4. Physics (1, 2). 4. Latin (3). 3. History (1, 2). 3. Botany (2, 3). 2. Mathematics. 2. Chemistry. 1. English (1, 2). 1. Political Economy (2, 3). 4. Mechanic Arts.	4. Latin. 2. Agriculture. 2. Mathematics. 1. Chemistry. 3. Physiology. 1. French.	4. Physics (1, 2). 4. Agriculture (3) 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry.	3. Mechanic Arts. Chemical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
11-12	4. Agriculture (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry. 1. English (1, 2). 1. Pol. Econ. (2, 3). 4. Mechanic Arts.	2. Agriculture. 2. Mathematics. 1. Chemistry. 1. French.				
V.	3. Drawing. 3. Mathematics. 2. English. 4. Mechanic Arts. 1. Elec. Design'g. 1. French.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts 1. Elec. Design'g. 2. Military Tactics	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
12-1			2. German. 1. Elec. Design'g. 2. Anal. Chemis'ty.			
P.M.	4. Mechanic Arts.	3. Mechanic Arts 2. Mineralogical Laboratory	3. Mechanic Arts. 2. Anal. Chemis'ty.	3. Mechanic Arts 2. Mineralogical Laboratory.	4. Mechanic Arts	
VI., VII.	3. Field Work Agr. 1 & 2 Laboratory Chemistry.	3. Field Work Agr. 1 & 2 Laboratory	3. Field Work Agr. 1 & 2 Laboratory.	3. Field Work Agr. 2. French.	3. Field Work Agr. 2. French.	
2-4	1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Elec. Lab. Work. Physical Labor'y.	Military Drill (*). 1. Mech. Lab'tory. Elec. Lab'y Work. 1 and 2 History.	1 & 2 Field Work, Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Labor'y.	Military Drill (*) 1. Mech. Labor'y. Elec. Lab'y Work. 1. and 2 History.	1 & 2 Lab. Chem. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Labor'y.	

Chapel services daily at 7:45 a. m.

Numbers prefixed denote classes—1 denotes senior, 2 junior, etc. Numbers affixed—(1), (2), (3),—denote terms.

*From 4:30 to 5:30 p. m.

DEPARTMENTS OF INSTRUCTION.

PHYSICS AND ASTRONOMY.

PRESIDENT BROUN.

PROFESSOR DUNSTAN.

The instruction is given by recitations from textbooks and lectures, illustrated by experiments. The first part of the course is occupied with elementary rational mechanics, treated graphically.

This is followed by a full discussion of molecular mechanics; while due prominence is given to principles, frequent reference is made to the applications of science.

The studies of the junior class include the properties of matter, units of measure, force, work, energy, kinematics, kinetics, mechanic powers, friction pendulum, molecular forces of solids, liquids and gases, theory of undulations, heat, electricity, magnetism, etc.

The studies of the senior class include light, and astronomy.

Post-graduate Course. This includes the study of analytical mechanics, and requires a knowledge of differential and integral calculus.

TEXT-BOOKS.

Atkinson's Ganot's Physics, Young's Astronomy, Berry's History of Astronomy, Bowser's Analytic Mechanics.

PHYSICAL LABORATORY.

INSTRUCTOR H. H. KYSER.

The laboratory work includes courses for the sophomore and freshman classes, and is so arranged as to begin with a study of the systems and units of measurements and to conclude with simple experiments in heat.

The student is required to ascertain experimentally various physical laws, hence in all exercises there is something to measure. From these measurements he is required to find the law connecting the quantities involved. Results of experiments are to be entered, in tabular form, together with methods, diagrams, etc., in a laboratory record book, which each student is required to prepare. At the close of each week this book is criticised and graded according to its accuracy and neatness.

FRESHMAN COURSE.

First Term. (a) Elementary physics (mechanics and heat).

Second Term. (b) Elementary graphical statics (continued in sophomore year).

Third Term. (c) Systems and units of measurements.

(d) Simple measurements of length, surface, volume and weight.

SOPHOMORE COURSE.

First Term. (a) Simple measurements and designing verniers and micrometers.

(b) Elementary graphical statics. (c) Forces, moments and work.

Second Term. (d) Simple machines and friction (determining mechanical advantages, loss, efficiency, law, etc.).

(e) Pendulum and gravity. (f) Elasticity.

Third Term. (g) Liquids. (h) Density and specific gravity. (i) Gases. (j) Heat.

The laboratory is equipped with instruments of foreign and American manufacture, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and with all apparatus necessary to perform from 10 to 20 experiments under each of the above named groups.

MATHEMATICS.

PROFESSOR SMITH.

ASSISTANT PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

ASSISTANT FEAGIN.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equa-

tions and logarithms, plane geometry (six books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Algebra completed, solid geometry, plane and spherical trigonometry, surveying, mensuration.

JUNIOR CLASS. Analytical geometry, descriptive geometry.

SENIOR CLASS.—Differential and integral Calculus.

Two objects are sought to be attained: first, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in farm, town and government land surveying, dividing land, mapping, plotting, and computing areas, etc.; also in the theory, adjustment and use of instruments.

The class in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

Mensuration includes an extended course in measurements of heights and distances, plane, rectilinear, and curvilinear figures, surfaces and volumes.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of the principles and formulas.



BOTANICAL LABORATORY.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry and Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Nicholson's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

GEOLOGY AND BOTANY.

PROFESSOR MELL.

Geology.—This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

There is also a course of advanced work in practical geology for post-graduate students. This subject is pursued by applicants for the degrees of master of science and mining engineer.

The junior class in civil engineering studies mineralogy through the entire session. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical constants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

Botany.—The students of the sophomore class begin the study of botany the first of March, and continue it through the session. Analytical work is made an important feature. This class is provided with plants from the fields, and taught how to determine their specific names. The work is sufficiently exhaustive to enable the student, after completing the course, to name

any of the ordinary weeds and grasses that he will encounter in this section.

In the junior class, in the course of chemistry and agriculture, two terms are devoted to systematic and structural botany, and to advanced laboratory work with the microscope in the preparation of specimens showing plant structure; this work is sufficient to familiarize the students with the methods of plant building and cellular organization. Excellent microscopes of the most improved patterns, and all necessary chemicals and apparatus for preparing and mounting vegetable tissues, are used by the students.

The third term is devoted to the study of the physiology of plants in order to understand the functions of the various organs after completion of the work in the histological laboratory.

FACILITIES FOR WORK.

Geology.—The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals for teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern complete, with oil, oxy-hydrogen and automatic electric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals; and models of crystals.

Botany.—The facilities for teaching this subject are as follows: Auzoux's elastic models of seeds and flowers; a large collection of pressed plants of Alabama and other sections mounted and catalogued. There is also a laboratory for practical work in botany equipped with slate-topped tables for twenty students; dissecting and compound microscopes by Zeiss, Leitz, and Bausch & Lomb; projection microscopic apparatus; microtomes by King and Bausch & Lomb; all the necessary glass ware and smaller dissecting instruments required in a well equipped laboratory. The Zeiss compound microscope used by the professor for experiment work in connection with the station is supplied with Abbe's illuminating apparatus, slide changers, Abbe's camera lucida, polarizers, apochromatic objectives (16 mm, 8 mm, 4 mm, and homogeneous immersion), oculars (2, 3, 8, 12, 18,) and photographic eye-piece with micrometer.

This laboratory is well lighted with gas and electricity and with a good exposure for ample sunlight.

In connection with the department there is a photographic dark room and an excellent photographic outfit, consisting of cameras varying in size from 4x5 to 6½x8½ inches; Bausch & Lomb's professional photo-micro camera extending to eight feet; Zeiss's anastigmat photographic lens, 6½x8½, fitted with Bausch & Lomb's diaphragm shutter, and Zeiss's wide angle lens, 6½x8½, all mounted in aluminum; Clark's lens fitted with diaphragm shutter; Darlot lens, 4x5; the accessory apparatus and chemicals required for first class work in photography.

The students have access to the botanical garden where experiments in grass culture and many other plants of interest to the farmer are conducted by the professor.

TEXT-BOOKS.

LeConte's Geology, Williams's Practical Geology, Tarr's Economic Geology, Dana's Mineralogy, Gray's Botany, Nelson's Herbarium and Plant Descriptions, Laboratory Guide, and notes of lectures.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT FEAGIN.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention will be paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manu-

facture; paints and other preservatives; classification of stains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, location and construction of railroads; unavigable, irrigation and drainage canals; river and sea-coast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class.—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class.—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear and free-hand drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue prints. The senior class makes topographical drawings, and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class.—Kitchener's Geometrical Note Book, Thorne's Junior Course in Mechanical Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, Plates belonging to the College, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

ENGLISH AND POLITICAL ECONOMY.

PROFESSOR THACH.

ACTING PROFESSOR FAULKNER

ASSISTANT SCROGGS.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course of English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest

work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings, themselves, of leading English authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 34.

For requirements as to thesis and as to proficiency in English for certificates and degrees see pages 41 and 97.

Declamation and themes (or orations) are required of *all regular* students. For details see below.

COURSE OF STUDY.

Freshman Class.—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class.—Three hours a week; study of style, analysis of selections of prose and poetry, frequent essays on historic and literary themes.

Carpenter's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class.—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems; Macaulay, Carlyle, DeQuincey, etc.

Senior Class.—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc., Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*:—For the freshman class, *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the

feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science.—Psychology defined. Value in relation to moral culture, education, and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy.—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Walker's Political Economy.*

A *Post-graduate Course* has also been established in English. The following courses have been given:

(1) *Shakespeare.*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV. Part I. Richard III., King John.

(2) *Dryden*—*Poetical Works* (Christie); *Essay of Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); *Saintsbury's Life of Dryden.*

Pope—*Poetical Works* (Ward); *Satires* (Pattison); *Stephen's Life of Pope*, Gosse's *From Shakespeare to Pope and 18th Century Literature*

3) *English Literature of the Eighteenth Century*: Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

CHEMISTRY.

PROFESSOR ROSS.

INSTRUCTOR HARE.

INSTRUCTOR HOUGHTON.

Instruction in this department embraces—

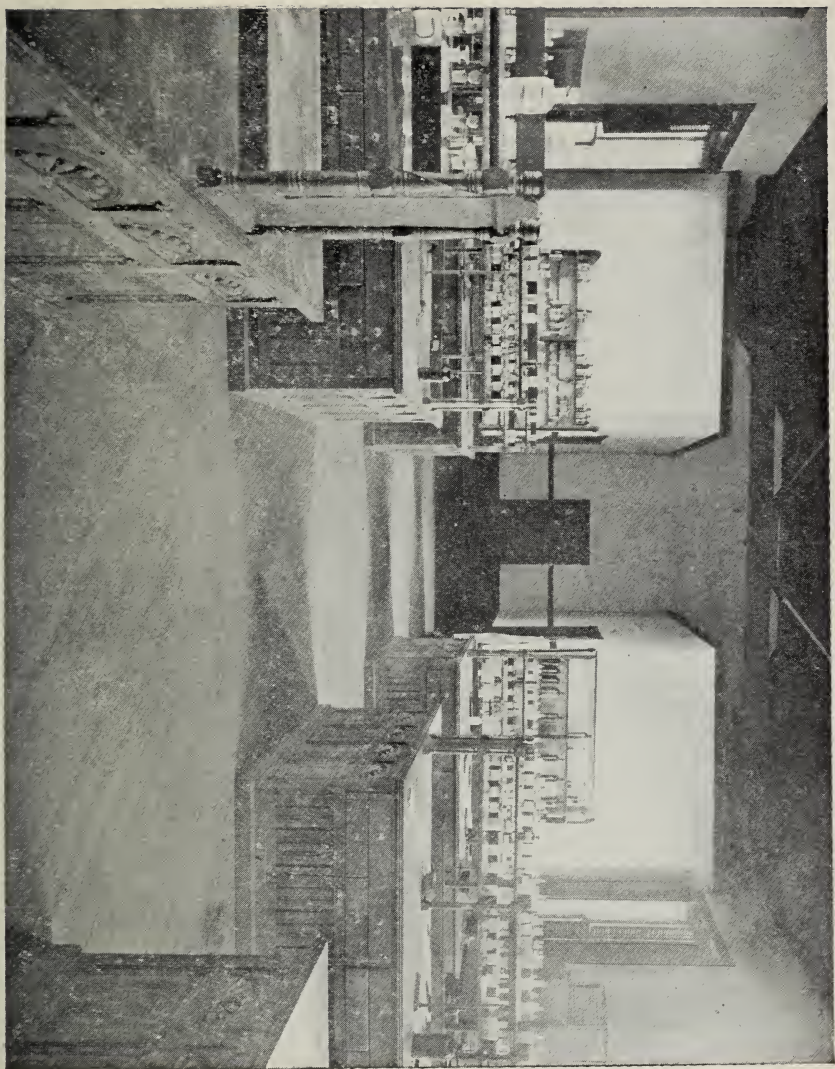
1. A course of lectures in general chemistry.
2. A course of lectures in industrial chemistry.
2. A course of lectures in agricultural chemistry.
4. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures on industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the reduction of ores, the preparation of materials, for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.



CHEMICAL LABORATORY (INTERIOR).

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

REFERENCE BOOKS.

Wagner's Chemical Technology, Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Percy's Metallurgy, Sadtler's Industrial Organic Chemistry.

3. Course in agricultural chemistry: This consists of lectures on chemistry in its applications to agriculture (two per week), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

4. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures, and embraces the practical operations of chemical analysis and synthesis, being varied somewhat to suit the individual object of the student.

The laboratories which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation, in the qualitative and quantitative analysis of soils, fertilizers, feed stuffs, sugar products, minerals, mineral waters, technical products, etc., and in the method of prosecuting chemical researches. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles, and the common re-agents and apparatus used in qualitative and quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the analytical work above described, it is designed to give during the session a short course in electro-plating. Practical instruction in the electro-deposition of nickel, silver, gold, etc., upon other metals will be given, and, in addition, the application of electrolysis to chemical analysis will be studied both theoretically and practically.

TEXT-BOOKS.

In qualitative analysis—Jones's Fresenius Plattner.

In quantitative analysis—Fresenius, Sutton, Rose, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 14.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, four short-arm Becker balances of latest pattern, Bunsen spectroscope, Zeiss microscope, and other instruments for delicate and accurate work.

HISTORY AND LATIN.

PROFESSOR PETRIE.

INSTRUCTOR PATRICK.

ASSISTANT ADAMS.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of iso-

lated facts but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Constant practice in map drawing is insisted on in order to give precision to the geographical knowledge acquired. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States, the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

In the junior and senior classes opportunity for special historical work is given to those students of the General Course who may elect it instead of laboratory work. During the session of 1900-01 the work will be in American history, social, political and constitutional.

A series of lectures will be given on American statesmen, including amongst others such Southern men as Randolph, Davis, Stephens, Toombs and Yancey. Lectures will also be given on important points in our history, including: The Failure of the Confederation; The Ordinance of 1787; The Constitutional Convention; The War of 1812; The Missouri Compromise; The Monroe Doctrine; Texas and Mexico; The Compromise of 1850; The Kansas-Nebraska Struggle; Secession.

The students will investigate under the direction of the professor topics connected with the lectures and will record the results of their research in note books. These records will be made the basis of general class discussion.

Graduate students are expected to take part in the junior and

senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class.—Cooper, Estill & Lemmon's History of the United States. Thorpe & McCorvey's Civil Government in the United States and Alabama, Montgomery's English History.

Sophomore Class.—Myers's General History.

Junior and Senior Classes.—Moore's American Congress.

Graduate Course—Wilson's Division and Reunion, selected parts of Stephen's Constitutional History, and of Rhodes's History of the United States, Fiske's Critical Period, Lodge's Hamilton, Morse's Jefferson, Schurz's Clay, Lodge's Webster, Sumner's Andrew Jackson.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on a familiar author or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

For the benefit of students who do not study the Latin language a series of popular lectures will be given upon the great Latin writers. Especial emphasis is laid on proficiency in writing Latin exercises and in translating Latin prose at sight.

TEXT-BOOKS.

Freshman Class.—Allen & Greenough's Grammar, Exercises, Nepos.

Sophomore Class.—Cicero, Allen & Greenough's Grammar, Exercises.

Junior Class.—Virgil, Horace, Allen & Greenough's Grammar, Exercises, Allen's History of Rome, Wilkins's Roman Antiquities.

Senior Class.—Livy, Tacitus, Wilkins's Latin Literature, Exercises.

MODERN LANGUAGES.

ACTING PROFESSOR FAULKNER.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun in the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

TEXT-BOOKS.

FRENCH—*First Year:* French Principia, Pts. I & II; Jules Verne's Michel Strogoff, Rogers's Sight Reading in French.

Second Year: Feuillet's Le Roman d'un Jeune Homme Pauvre, Dumas' La Tulipe Noire; French Composition.

GERMAN—*First Year*: Harris's German Lessons; Super's Elementary German Reader, Zschokke's Der Zerbrochene Krug.

Second Year: Schiller's Ballad's, Hauff's Das Kalte Herz; Bernhardt's German Composition.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

INSTRUCTOR KYSER.

ASSISTANT McDONNELI.

JUNIOR YEAR.

The students in this course will study English, French or German, Physics, Mathematics, etc., as now prescribed for the course of Civil Engineering in the junior and senior years and in addition thereto will prosecute their studies in electricity and mechanics as herein prescribed.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with especial reference to their industrial applications. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lightning, four hours per week.

Third Term: Arc lighting and wiring four hours per week.

TEXT-BOOKS.

Ayrton's Practical Electricity. Houston and Kennelly's Incandescent and Arc Lighting. Cushing's Standard Wiring.

LABORATORY WORK.—Four hours per week are given to work in the laboratory. This includes management of batteries, construction of instruments, electro-plating, electrical measurements, verification of the principles upon which the measurements of current, electromotive force and resistance are based, etc.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

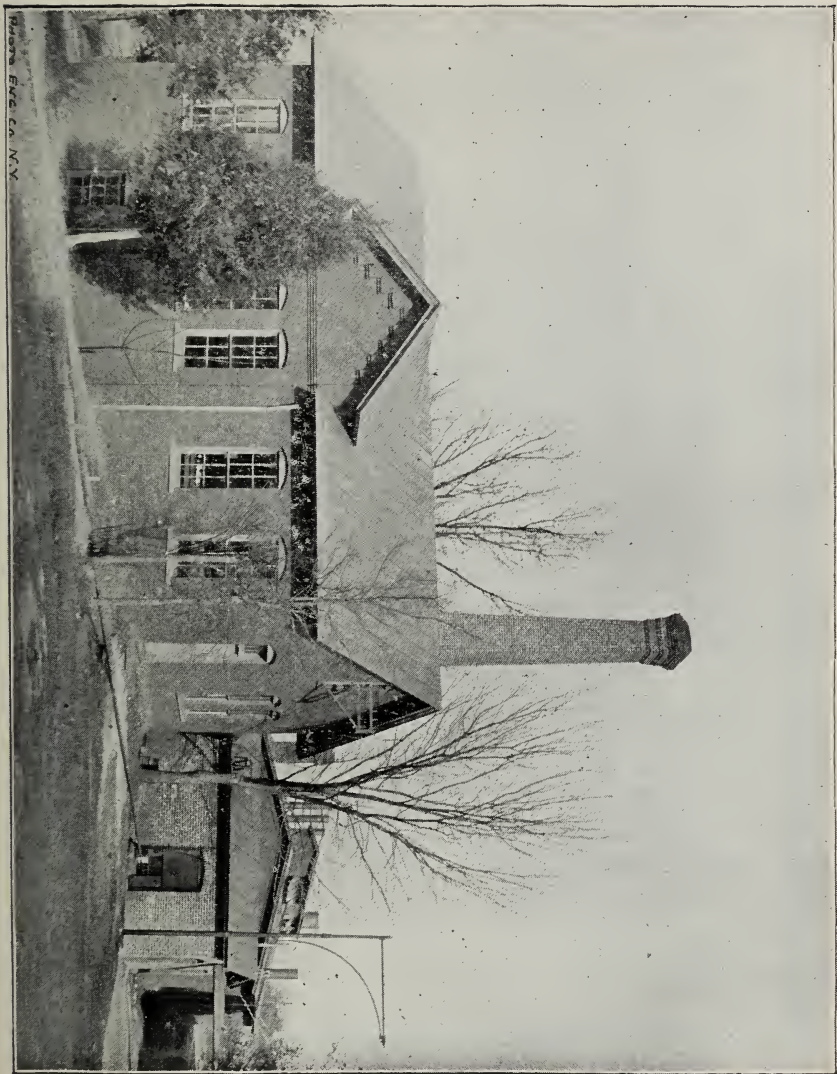


PHOTO ENCL. N.Y.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Thompson. Alternating Currents, Franklin and Williamson. Standard Polyphase Apparatus, Oudin.

LABORATORY WORK.—Six hours per week are devoted to practical laboratory work, electrical measurements, relation of electrical currents to heat and mechanical work, care and tests of dynamo and motors, calibration of voltmeters, ammeters and watt-meters, electric lighting, management and care of accumulators, energy consumed in lamps, adjustment and care of arc lamps, proper wiring of buildings, the application of electricity to street railways, magnetic measurements, tests of transformers and alternating motors, etc.

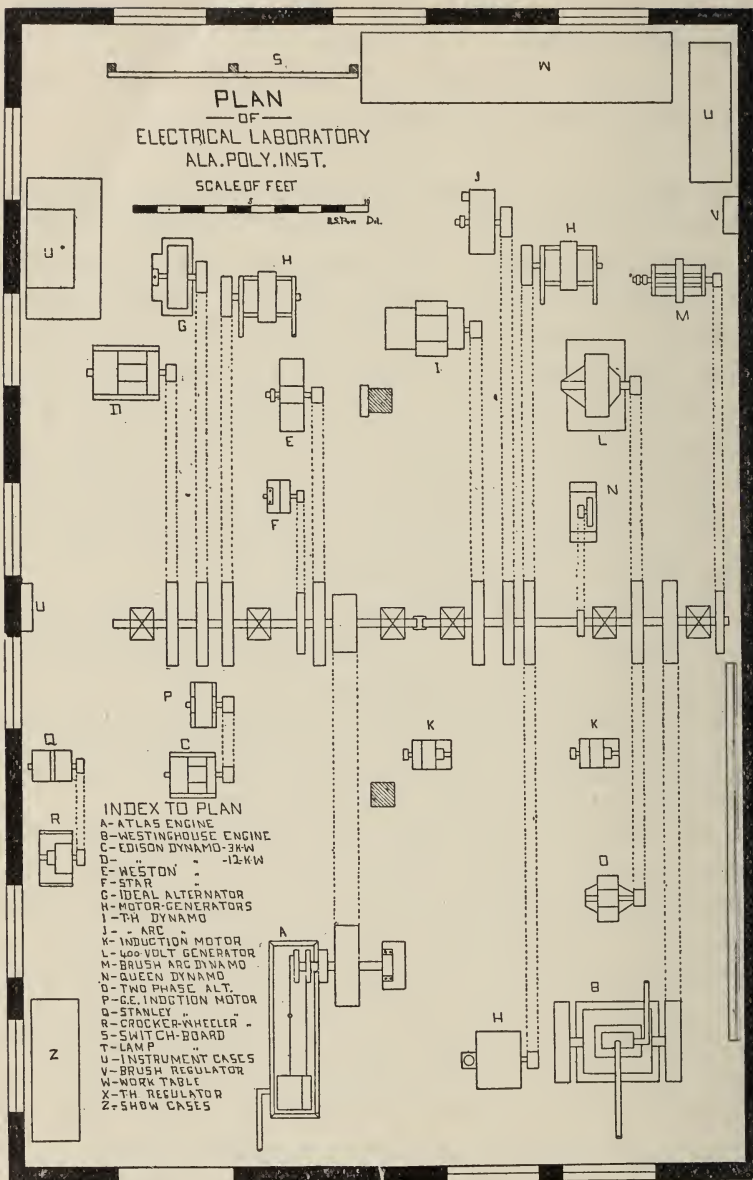
DRAWING AND CONSTRUCTION.—Two hours per week in the senior year are devoted to the design and construction of electrical machinery.

Encouragement is offered to advanced students for conducting original investigations, and opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students in connection with their experimental work.

In addition to the usual laboratory work senior students spend a portion of their time in the boiler room, learning the management and care of the steam plant, and in turn take charge of the lighting plant, thus becoming familiar with running the engines and dynamos.

POST GRADUATE COURSE.—To graduate students more advanced courses in the theory and applications of alternating currents and alternating current machinery are given. The courses will be varied slightly from year to year to suit the needs of those taking the course.

In connection with this work suitable laboratory work will be given.



EQUIPMENT.

The electrical laboratory has a complete line of batteries, call-bells, annunciators, telegraph sounders, relays, keys, magnets; galvanometers, resistance boxes, electro-plating apparatus, and all apparatus for students in electrical engineering. The equipment comprises many fine instruments of precision: Lord Kelvin's standard 100 ampere balance (either for direct or alternating currents); Lord Kelvin's graded current galvanometer, reading 600 amperes; also, his graded potential galvanometer, reading 600 volts; Weston alternating current voltmeter, Weston direct reading watt-meter, Queen's "Acme" testing set, Kelvin electro-static voltmeter, Cardew voltmeter (for direct or alternating currents), reading to 150 volts; Weston's standard ammeter and voltmeter, box of resisting coils; Queen's magnetic vane voltmeter, and ammeter, standard microfarad condenser and Sabine key; Thompson's watt-meter, ballistic reflecting galvanometer, mirror galvanometer, Fein ammeter and voltmeter, Ayrton & Perry ammeter, Thomson inclined coil ammeter, Edison ammeters, Kohl's solenoid ammeter, Wood ammeter, Deprez ammeter Hartman & Braun voltmeter, D'Arsonval galvanometer, Rowland-D'Arsonval galvanometer, cable testing apparatus, Hughe's induction balance, tasimeter, microphone, telephones, electrolytic apparatus and several mirror and other galvanometers for first year students.

In the dynamo room the following are installed: One Weston 150 volt, 20 ampere dynamo, with rheostat; one Brush 6 arc light dynamo, with regulator and six lamps; one Ideal 5 kilo-watt three phase alternator; one Thompson-Houston 9 arc light dynamo with lamps; one Edison compound wound 12 kilo-watt generator; a Thomson-Houston 110 volt, 75 ampere generator; two street car motors used as either direct or alternating current generators or motors; two poly-phase induction motors; one General Electric 5 horse-power induction motor mounted on cradle dynamometer; General Electric 20 horse-power motor; one Stanley induction motor with condensers; Edison $3\frac{1}{2}$ kilo-watt generator; a Crocker-Wheeler one horse-power motor and rheostat, and one bi-phase alternator, and 500 volt generator, made by special students, furnish current to laboratory, and light up the different buildings. A lamp board with a capacity of 210 lamps has been installed and is used for testing purposes.

The dynamos occupy a separate brick building, 50x32 feet, and are operated by a 35-horse power Westinghouse vertical engine, and a 25 horse-power Atlas engine.

This department, being provided with Lord Kelvin's standard electrical instruments for exact measurements, will calibrate, free of expense, and ammeter or voltmeter that may be sent to the College.

An electric motor made by students, supplied with current from

a generator at a distance of 3,000 feet, operates a gin, gin press, ensilage cutter and fed cutter at the experiment station farm. This motor not only subserves a useful purpose in the operation of these machines, but is an excellent illustration of the electric transmission of power.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSISTANT PROFESSOR CRENSHAW.

INSTRUCTOR TRAMMELL.

INSTRUCTOR FULLAN.

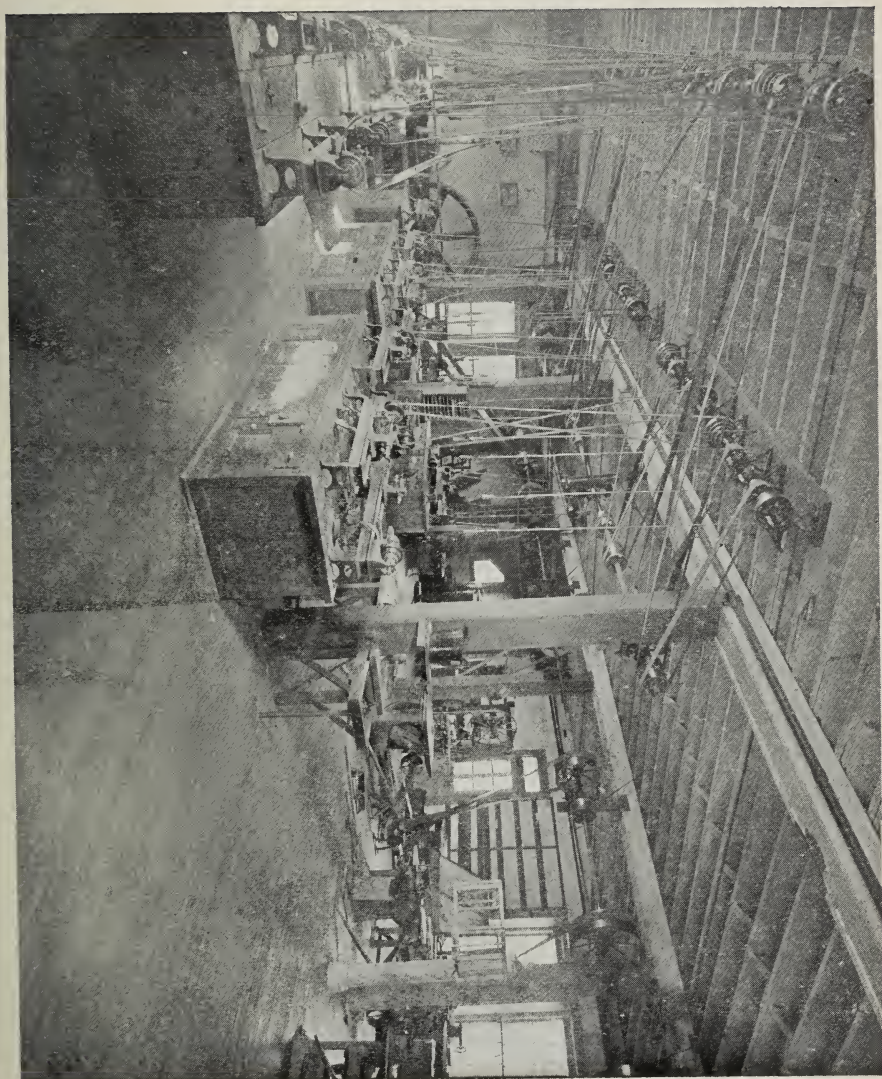
The course in manual training covers three years, as follows: first year, wood-working—carpentry and turning; second year, pattern making and foundry and forge work—molding, casting and smithing; third year, machine shop—chipping and filing and machine work in metals.

This course is obligatory upon the students of the two lower classes. For satisfactory reasons a student may be excused from this laboratory work by the Faculty.

The full work of each class is six hours per week, in three exercises of two hours each.

The power for running the apparatus in this department is derived from a twenty-five horse-power Harris-Corliss automatic engine which is supplied with steam by a thirty horse-power steel horizontal tubular boiler. A steam pump and a heater for the feed water form a part of the steam apparatus. For the steam plant a substantial brick boiler-house and chimney have been erected.

The equipment for the wood-working shop comprises the following: 30 wood-working benches, each with complete set of carpenter's tools; 24 turning-lathes, 10-inch swing, each with complete set of tools; 1 double circular saw; 1 band saw; 1 board-planing machine; 1 jointer; 1 pattern-maker's lathe, 16-inch swing; 1 36-inch grindstone. The tool room is supplied with a variety of extra hand-tools for special work, and in addition to the regular carpenter's tools in the benches, each student is supplied with a set of chisels and



WOOD ROOM.

plane irons with a locker to keep them in and is held responsible for their care and condition.

The equipment for the foundry consists of molding benches for 18 students, each supplied with a complete set of molder's tools; a 23-inch Colliau cupola, with all modern improvements, capable of melting 2,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucible tongs, etc. Also a full supply of ladles, large and small moulding flasks, a foundry crane, special tools, etc.

The forge shop equipment consists of 16 hand forges of new pattern, each with a set of smith's tools, anvil, etc. The blast for all the forges is supplied by a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a No. 15 Sturtevant exhaust blower draws the smoke from the fires into the smoke-flues and forces it out through the chimney.

The machine department occupies a brick building, 30x50 feet, and is equipped with eight engine-lathes, (screw-cutting, 14-inch swing, 6-foot bed; 2 engine lathes 16-inch swing, (one with taper attachment); 1 engine lathe, 18-inch swing, with compound rest and taper attachment); 1 speed lathe, 10-inch swing; 1 20-inch drill press (power feed); 1 10-inch sensitive drill; 1 15-inch shaper; 1 22-inch x 22-inch x 5 feet planer; 1 universal milling machine; 1 corundum tool grinder, (14-inch wheel); 1 bench grinder; 1 post drill press, 14-inch universal cutter and reamer grinder; 1 Brown and Sharpe universal grinding machine; 1 power hack saw. A part of the room is set apart for vise-work, chipping and filing; and benches for 12 students are provided, each with vise and set of files, chisels, hammers, etc. In the tool-room is to be found a good supply of machinists' tools for general shop use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting and measuring tools, and special appliances for machine work, with machine for grinding twist drills.

The nature of the work in each department is as follows:

FIRST YEAR.

I. A course of carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet making, light cabinet work examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through the third term. The lessons comprise, nature and use of lathe and tools, plain

straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and check work, hollow and spherical turning.

SECOND YEAR.

I. Course in forge work in iron and steel, occupying the first term. The lessons are arranged so that the students in making the series of objects, become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool-forging, tempering, hardening, etc.

II. A course in pattern-making covering the second term. The work includes a variety of examples of whole and split patterns, core work, etc., giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks; core work is also given, and some three part flask and some dry sand work is introduced.

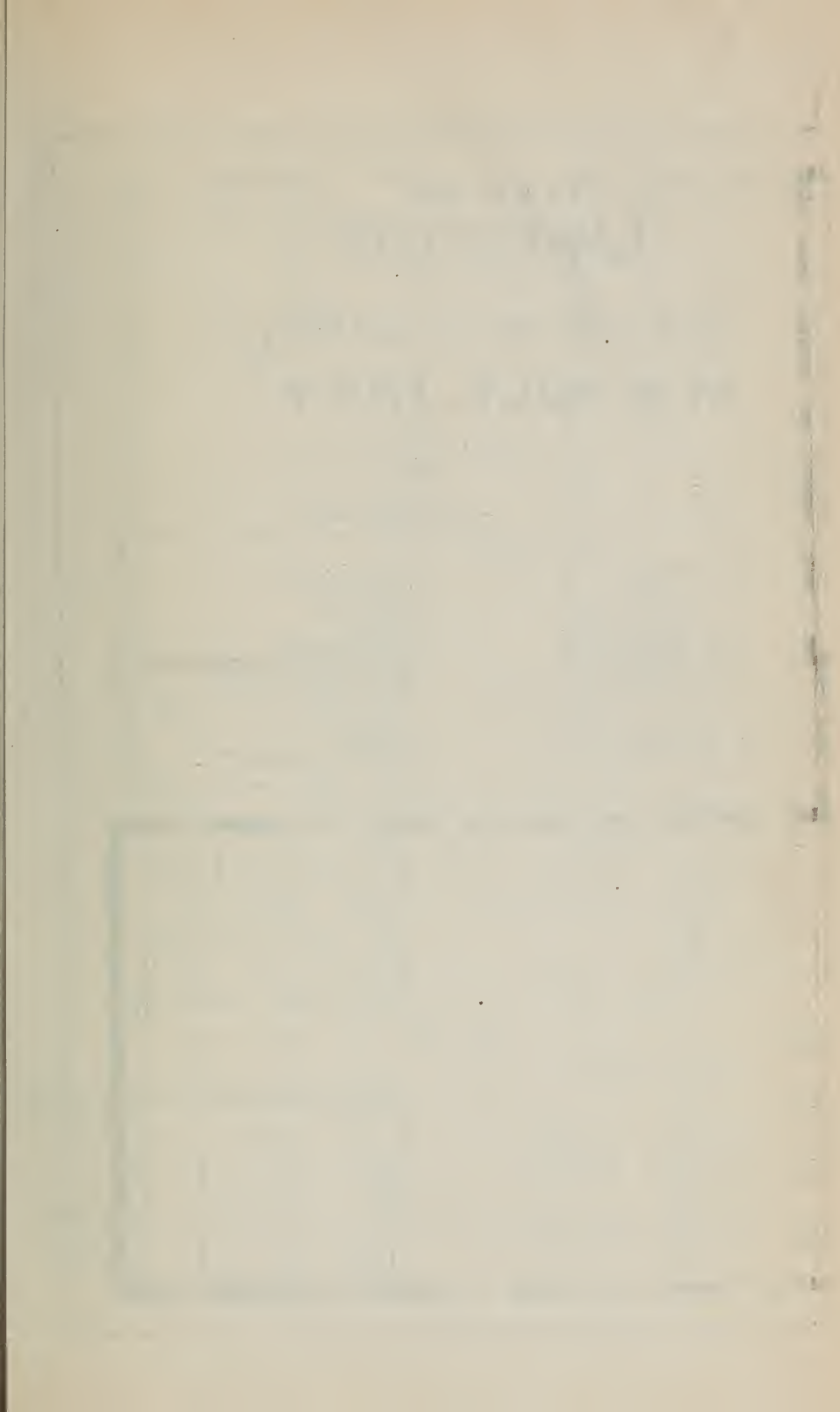
The same patterns which have been previously made by students are used, besides special patterns for occasional larger or more complicated work. Instruction and practice is given in working the cupola.

In connection with this second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

THIRD YEAR.

I. A course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron; chipping to line on flat and curved surfaces, key-seating, etc., filing and finishing to line (straight and curved), surface filing and finishing, fitting, slotting, dovetail work, sawing, pin and screw filing, surface finishing with scraper, etc.

II. Machine work occupying the remainder of the year. The work includes cast and wrought iron, steel and brass; turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling—both in lathe and drill press,—reaming, boring, screw-cutting in lathe and with taps and dies, planing, slotting, etc., with planer and shaper, milling various forms with the milling machine, including exercises in making taps, reamers, etc., fitting, grinding, polishing, etc.

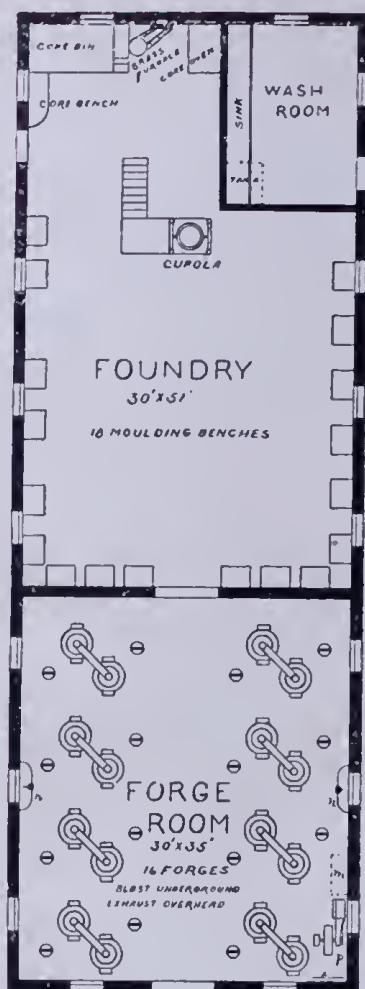


PLAN OF LABORATORY ~ OF ~ MECHANIC ARTS, ALA. POLY. INST.

AUBURN, ALA.

1885

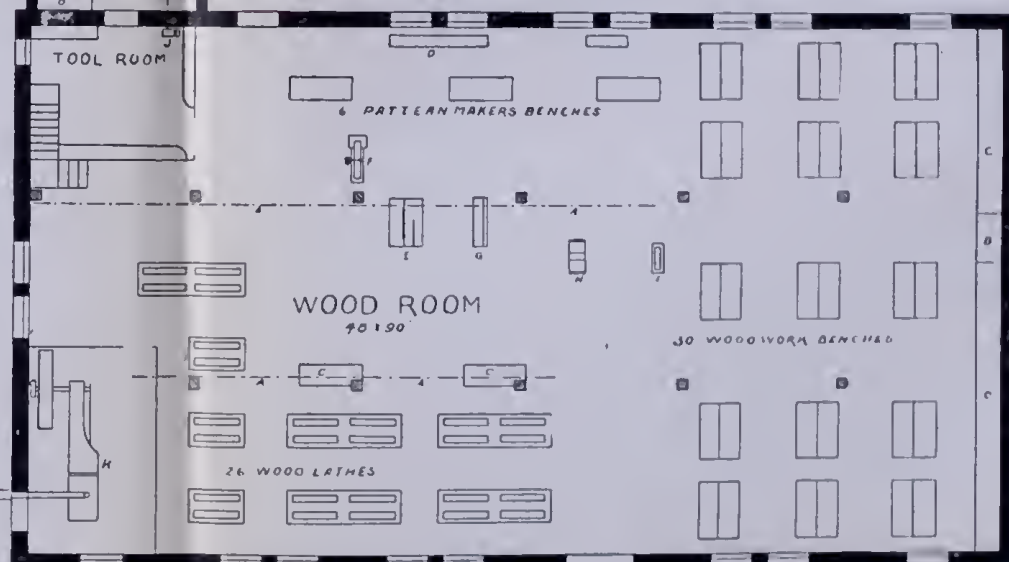
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MACHINE TOOLS

OFFICE

TOOL ROOM



INDEX.

GENERAL

A LINE SHAFT
B CLOSETS
C BENCHES

WOOD ROOM

Q PATTERN LATHE
Z CIRCULAR SAW
F BAND SAW
G JOINTER
H PLANE
I GRIND STONE
J RIGHT ANGLE COUPLING
K 25 HP HARRIS-CORLISS ENGINE.

BOILER ROOM

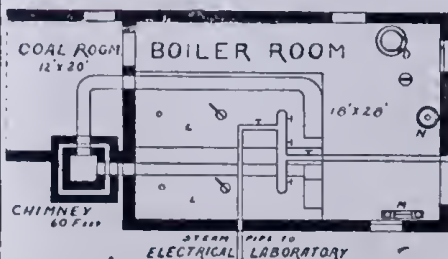
L 2.30 H.P. BOILERS
M PUMP
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MACHINE ROOM

P ENGINE LATHES (4)
R SPEED LATHE
S DRILL PRESS
T TOOL GRINDER
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Y UNIVERSAL GRINDING MACHINE
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A CHIPPING & FILING BENCHES
B BENCH GRINDER
C POWER HACK SAW

FORGE ROOM

D BLOWERS
E BENCHES
F 51A SLIDE VALVE ENGINE
G MADE BY STUDENTS



Lectures are also given during the year on various subjects connected with machine work in metals; such as forms, construction and use of the various machines, cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given the classes.

All of the work is done from blue prints made by the class in drawing. In the construction work, the student is given a blue print and the material for a certain part. He is then encouraged to study the work and plan the best method of doing it.

MECHANICAL ENGINEERING.

JUNIOR YEAR.

Elementary Mechanics.—Three hours a week for the first term are devoted to this subject. The fundamental laws underlying all mechanical science and the mechanics of liquids, gases and vapors are studied.

Principles of Mechanism.—Three recitations per week during the second and third terms are devoted to this subject.

Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear wheels, belts, cams, screws and link-work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motions as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Mechanical Drawing.—During the first term the students make drawings to exact scale, of some of the simpler machines. The student takes his own measurements and makes his own sketches from which to make the finished drawing.

An elementary course of machine design is started at the beginning of the second term and continued till the end of the year. Some comparatively simple machine is selected and studied in all its details. Careful attention is given to the strength of the parts and their mechanical arrangement with reference to facility of manufacture. An actual machine or the working drawings of a machine are obtained, the dimensions compared with those obtained by applying the theoretical formulas, and the causes of variation between the two studied.

Laboratory Work.—The laboratory work will consist of hand work in iron and machine work in iron, as given in the course in mechanic arts in the third year.

TEXT-BOOKS.

Wood's Elementary Mechanics; Stahl and Wood's Elementary Mechanism.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term five hours per week is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturer's catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Steam Engine.—The second term five hours per week will be given to the study of the theory and efficiency of the steam engine, with discussions of the effects of condensation in cylinder, action of fly wheels, effects of jacketing, etc. Simple and compound engines, various valves and cut-off motions, and the principal types of modern engines are studied. Special attention is given to the steam engine indicator.

Graphical Statics of Mechanism.—Six weeks of the third term, five hours per week, will be given to the study of this subject. The advantage of graphical over analytical methods is general recognized, and new applications of the former are constantly being made. By its use, the forces acting in every part of a machine may be determined, both in direction and intensity, without the use of a mathematical formula.

During the remainder of the third term, a series of lectures on mechanical refrigeration and gas engines is given.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs

throughout the year, two hours a week. During the first term, the strength and proportions of different joints and fastenings are studied, and problems given for actual solution. During the remainder of the year the time is spent on steam engine design. The results as obtained from standard formulas are compared with the dimensions as used by the best constructors, and the reasons for variations, if any occur, are studied.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions.

Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales and balances; calorimeter tests with barrel separating and throttling calorimeters; boiler test with determination of the quality of steam and analysis of flue gas; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; efficiency and duty of a steam pump; tensional, compressional and transverse tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength and the modulus of elasticity.

This class usually makes a test of some electric plant or mill some time in the last term.

The apparatus for carrying on this work consists of 45 horse-power Imperial cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump, of a 25 horse-power Harris-Corliss engine, a 35 horse-power Westinghouse engine, a 25 horse-power Atlas engine, two 9 horse-power engines, constructed by students in the shops, a small engine and boiler especially for making efficiency tests, a duplex Deane steam pump, an Ericsson hot air engine, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, pyrometers, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester for correcting the standard gauge, a 35,000-pound testing machine, and Henning micrometer extensometer, a Carpenter calorimeter with auxiliary apparatus for determining the heating value of different fuels, a draft gauge, and a Henning pocket recorder.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Holmes's Steam Engine, Herrman-Smith's Graphical Statics of Mechanism; Unwin's Machine Design.

REFERENCE BOOKS.

The Library contains a number of standard works on the various subjects studied, and the students are referred to them constantly for more extended treatment of many points that come up in class.

POST-GRADUATE COURSE.

The following course has been arranged and represents the amount of work required. Hydraulics may be substituted for thermodynamics if the members of the class are unanimous in wishing the change. Other substitutions may be made at the option of the professor, provided they represent an equivalent amount of work, and are in the general line of the course selected.

Dynamometers.—This includes dynamometers and the measurement of power. Absorption and transmission dynamometers are studied, with their application and use in testing steam engines.

Valve Gears.—The different forms of valve gears of steam engines are studied, and problems in designing gears are worked out.

Thermodynamics of the Steam Engine.—This subject is studied theoretically and practically, and attempts a complete analysis of the action of steam in an engine.

Laboratory Work.—As much advanced laboratory work will be given as can be arranged with the appliances at hand.

TEXT-BOOKS.

Flather's Dynamometers and Measurement of Power, Spangler's Valve Gears, Peabody's Thermodynamics of the Steam Engine, Merriam's Hydraulics.

AGRICULTURE.

PROFESSOR DUGGAR.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and extends through three terms

of the sophomore year and two terms of the junior year. The time devoted to this study in the lecture room is two hours per week with each class.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs,—their characteristics, uses, management and adaptability to the South. Practical work in judging live-stock is included in the course. Five breeds of cattle and two of hogs are represented in the herd maintained by this department.

The first term of the sophomore year is devoted to dairying and to a study of the principles of live-stock breeding. Dairying will be taught by practical work in the dairy,—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: soils—chemical and physical properties, defects, and means of improvement; the control of water, including means of conserving moisture in times of drought, terracing, underdrainage, and open and hillside ditches; objects and methods of cultivation; agricultural implements; rotation of crops; and improvement of plants by crossing, selection, and culture.

The third term of the sophomore year is devoted to the staple crops produced in Alabama, to forage plants adapted to the South, and to plants valuable for the renovation of soils. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivating, and uses.

In the junior year the subjects of feeding animals and of farm management are studied. Among the topics included under the latter heading are different systems of farming and stock growing, farm equipment and buildings, silos and silage, care of farm manures, compost-

ing, choice and methods of applying commercial fertilizers for different crops and soils, and economical methods of improving exhausted soils.

In every class the student is encouraged to independent thought on agricultural problems rather than to depend on "rules of thumb," so that he may be prepared to adapt his practice in after years to changed conditions of soil, climate, capital, market, etc. The successful farmer must be a thinker rather than a blind follower of inflexible rules.

The effort is made to keep before the student the difference between the widely applicable principles on which every rational system of farming rests and the details that vary with changing conditions. The conditions of soil, climate, etc., prevailing in different parts of Alabama are kept constantly in view.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

REFERENCE BOOKS.

Horses, Cattle, Sheep, and Swine, by Curtis; The Study of Breeds, by Shaw; Milk and its Products, by Wing; Dairyman's Manual, by Stewart; Soils and Crops of the Farm, by Morrow & Hunt; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; The Soil, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in some of its Relations with Chemistry, by Storer; Manual of Cattle Feeding, by Armsby; Feeds and Feeding, by Henry; Stock Breeding, by Miles; Hand-Book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture and of the agricultural experiment stations.

BIOLOGY AND HORTICULTURE.

PROFESSOR EARLE.

The subject of biology is required of the senior class in the courses of chemistry and agriculture, and of pharmacy. It occupies five hours a week for three terms of the senior year. The work in this department will be



LABORATORY OF BIOLOGY.

largely confined to the study of the lower forms of plant life and to vegetable physiology, or the study of plants as living beings. Under the first head special attention will be given to the bacteria and other diseases producing organisms of man and the higher animals; and to the parasitic fungi that cause diseases of plants. Under vegetable physiology those problems that explain the foundation for correct agricultural practices will be made most prominent. This will include the germination of seeds, the food and nutrition of plants, the circulation of the sap, the processes of reproduction, plant variability, etc.

The instruction will be by text-book, supplemented by lectures and by practical laboratory work.

The students will be required to make careful microscopic drawings of objects studied. They will also collect material in the fields and determine it so far as their instruction will admit.

The equipment for instruction in this department comprises besides a sufficient lecture room, a students' laboratory and two small glass rooms for cultural and bacteriological work. These are supplied with water, gas and all necessary appliances for thorough primary and advanced work, including compound and dissecting microscopes for each student, microtomes, paraffine baths, incubators, steam and dry sterilizers, instantaneous water heaters, Pasteur filter, chemical and common balances, set of Brendel's models of parasitic and other fungi, besides a large and well selected stock of glassware staining fluids, chemical re-agents, culture, media, etc.

In the private office of the department, which is fitted up as a special laboratory for the use of the professor in charge, is located a good reference library and the scientific collections of the department. At present these consist of about 17,000 named specimens of fungi, and of the other groups of cryptogams. These books and collections are accessible to the students, and constitute, with the other resources mentioned, a superior equipment for advanced biological instruction.

HORTICULTURE.

At present special horticultural instruction is confined to the spring term of the junior year in the course of chemistry and agriculture, and to some practical work and "field lectures" to the students of the same course

during the sophomore year. Instruction is given by lectures and text-book and by courses of reading, using the green house and orchards and gardens of the experiment station to give practical illustrations of the subjects taught.

Attention is called to the various fruits and vegetables that can be successfully cultivated in Alabama, and methods of propagation, cultivation and marketing are discussed. Particular attention is called to the diseases and insect enemies to which each of these crops are liable, and careful directions are given as to the best known means of combating them. The construction and management of green houses, hot beds and cold frames receives special attention, while such topics as floriculture, landscape gardening and forestry are discussed in a general way only.

Special work will be arranged for any student desiring to take a more extended course in horticulture.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements. Ammunition for practice firing is used under the direction of an experienced officer. The exercises in target practice begin the first day of the third term.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and pants as worn at West Point, with sack coat for fatigue, dark blue cadet cap. A neat and serviceable uniform can be obtained here at \$14 to \$15. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.



CORPS OF CADETS.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected either from the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and Commandant. The resignation of his office by a minor will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

No cadet can continue an officer in the corps who during a session is classed in the fourth grade in two or more subjects at any term examination, or in the fourth grade in any subject at two term examinations; nor who receives during the session more than 60 demerits.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain, two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Elements of Military Science, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. Army, and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

PHYSIOLOGY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books, supplemented by black-board drawings, charts, models of organs, a human skeleton, and by dissections of some of the smaller animals (dog, cat, etc.).

Martin's Human Body is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.



Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practice of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post mortem examinations and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

The senior class in pharmacy devotes three hours per week, during the first and second terms, to the study of therapeutics; and four hours per week during the third term to class room and laboratory work in bacteriology.

To the post-graduate student this department furnishes work in history, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote their entire time to work in this department with the approval of the faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books, and morbid histology embraces naked eye and microscopic examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites are found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analyses of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilizations, inoculations of small animals, staining, microscopical examinations may be learned. In the laboratory, are 3 Bausch and Lomb and 2 Winkel microscopes, each of which is supplied with oil immersion objectives, 2 oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now located by itself in a building which consists of a two-story portion, containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor; and a one-story part, which contains an operating room.

The building is supplied with water and gas, and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body and models of many parts of the horse, the ox, and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box stalls, four open single stalls, an office and a feed room, on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

Every Saturday during the college year, the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lamenesses and to become proficient in minor operations.



LABORATORY OF PHARMACY.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *four hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *nine hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than two hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than three hundred drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball, and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty, in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance on recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using, or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of foot-ball; nor will permission be given for any athletic game, to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week, and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short, and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This Association is regularly organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the Association when they enter the Institute.

The ladies of the different churches in Auburn have recently formed an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the College chapel and will provide lecturers for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

M. A. BEESON, President.

H. Y. HALL, Vice-President.

W. S. RUTLEDGE, Treasurer.

W. F. OSBURN, Corresponding Secretary.

J. R. RUTLAND, Recording Secretary.

A. F. JACKSON, Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide water. By statute of the State, the sale of spirituous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories, and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book, and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which a satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or being absent by reason of family sickness, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from College by his parents his zeros for absences are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

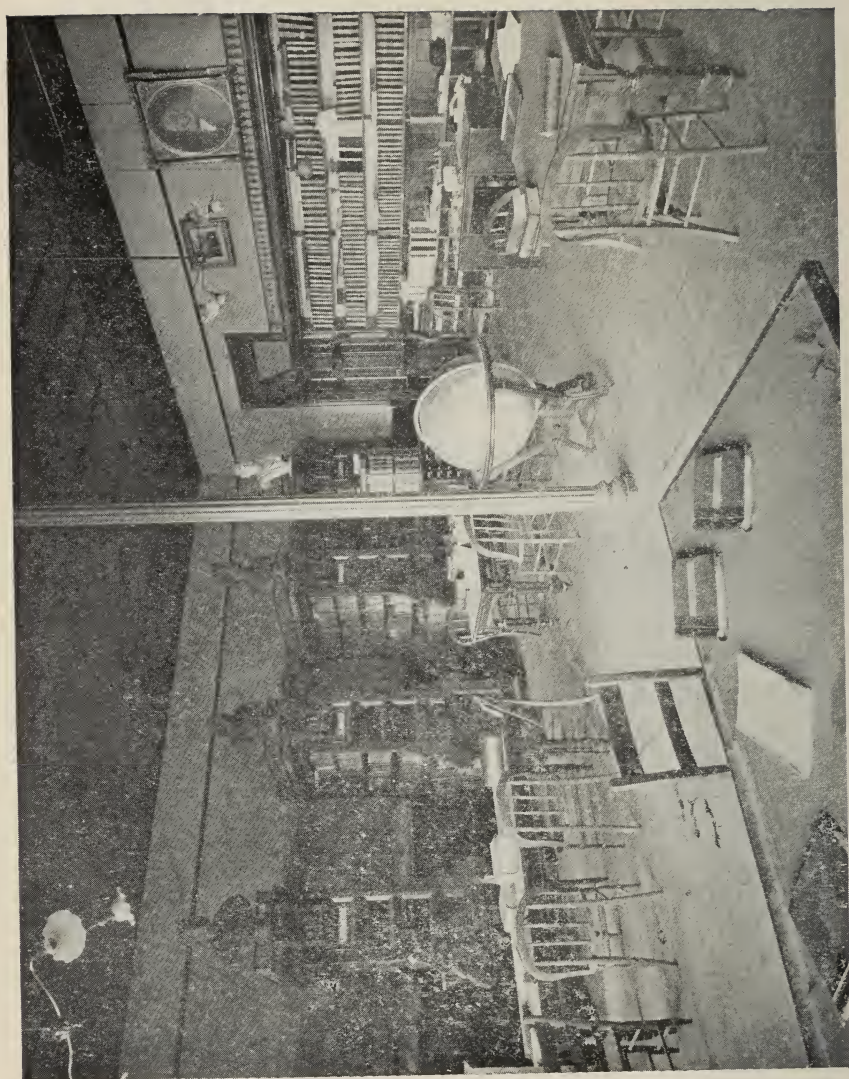
Certificates of distinction are awarded in public on commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class, provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervening intervals reports, giving the grade made by each student, are sent to the parent or guardian.



GENERAL LIBRARY.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, February, and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except in extreme cases.

LIBRARY.

The library occupies an elegant, well-lighted room in the main building, and also two smaller adjacent rooms. It contains over 14,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room, and is thus made an important educational feature.

MUSEUM.

The museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character. It is under the charge of Professor P. H. Mell, to whom specimens as contributions may be sent.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding-houses, are not permitted to make changes without obtaining permission from the president, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age and to those who are on the "honor roll," except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per half session.....	\$2 50
Library fee, per half session.....	1 00
Surgeon's fee, per half session.....	2 50
	<hr/>
	\$6 00

These fees are payable, \$6.00 on matriculation and \$6.00 on February 1st. By order of the Trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

For a non-resident of the State there is a charge for tuition of \$20.00 per session, payable \$10.00 on matriculation and \$10.00 on February 1st, in addition to the semi-annual fee of \$6.00 payable by all students.

Board, including lodging, fuel and lights is furnished at \$12.50 to \$15.00 per month.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees.....	\$ 12.00	\$ 12.00
Board, lodging, fuel and lights....	108.00	135.00
Washing... ..	9.00	9.00
	<hr/>	<hr/>
Total.....	\$129.00	\$156.00

By special arrangement with the College authorities Mrs. M. L. Mitchell, Mrs. A. Debardeleben, and Mrs. S. M. Anderson will accommodate students with board, lodging, fuel, &c., for \$9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to \$106.50 per session. This estimate does not include the cost of the uniform, about

\$14.00, or of books, say from \$5.00 to \$15.00, or the laboratory fees in the higher classes, \$5.00 or \$10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in chemistry, or in electrical and mechanical engineering, a fee of \$5.00 per session is required. This fee is payable on admission to the laboratory, and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students not residents of Alabama is \$20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year, or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each, by reason of special merit in conduct and scholarship during the session '98-99, an honor scholarship, which exempted from tuition fees:

W. W. Askew.....	Georgia.
E. Bukofzer.....	Tennessee.
J. D. Elliott.....	Wyoming.
F. C. Greene.....	Georgia.
R. B. Hall....	Georgia.
A. F. Jackson.....	Georgia.
M. Ketchum.....	Florida.
H. M. Kilpatrick.....	Georgia.
K. E. Lindrose.....	Mississippi.
C. W. Nixon.....	Tennessee.
H. B. Park.....	Georgia.
H. P. Powell.....	Georgia.
H. E. Werner.....	Texas.
W. D. Willis.....	Florida.
J. E. D. Yonge.....	Florida.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made, by a contractor, of excellent cloth manufactured at

the Charlottesville mill. This suit, including cap, costs at present about \$14.00. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to college property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee.....	\$ 2 50	
Library.....	1 00	
Surgeon.....	2 50	
Contingent fee.....	5 00	
Uniform.....	14 00	
	<u>\$25 00</u>	
Tuition, non-resident.....		\$10 00
		<u>\$35 00</u>

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say \$25.00. Hence, a resident of Alabama should deposit with the Treasurer \$50.00, a non-resident, \$60.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons, or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc., when approved.

When funds are deposited, checks are drawn on the Treasurer of the College by the cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration and read and deliver the same at commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a laboratory showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of April. The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22nd of February. They elect annually, with the approval of the Faculty, an orator to represent them at the close of the year.

To encourage the literary societies the Trustees have directed that a medal be awarded on commencement day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection to be determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and declamation.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

In 1885, the Alumni Society established "The Alumni Scholarship," which makes an annual loan of one hundred and seventy dollars to a beneficiary elected by the society. Eight young men have been thus enabled to

go through college. This scholarship is supported by annual contributions from the Alumni and other friends of the institution.

The beneficiary selected is admitted without charge for tuition or college fees of any character.

Subscriptions should be sent to B. H. Crenshaw, Treasurer, Auburn, Ala.

The annual alumni oration is delivered by a member of the society, in Langdon Hall, on Alumni Day, Tuesday of commencement week.

The following are officers of the society:

C. L. HARE.....	President.
R. AP C. JONES.....	Vice President.
CHAS. H. ROSS.....	Permanent Secretary.
H. H. KYSER.....	Assistant Secretary.
B. H. CRENSHAW.....	Treasurer.
GEORGE H. PRICE, M. D.....	Orator, 1900.

SURGEON.

The Surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1900-1901 commences on Wednesday, 12th September, 1900 (*second Wednesday after the first Monday*), and ends on Wednesday, 12th June, 1901 (*second Wednesday after first Monday*), which is commencement day.

It is divided into three terms. The first term extends from the opening of the session to the 21st of December; the second term begins January 2nd, and ends March 18th; the third term continues to the close of the session.

AN ACT OF THE LEGISLATURE.

To change the name of the Agricultural and Mechanical College of Alabama.

WHEREAS, the Agricultural and Mechanical College at Auburn having by means of the appropriations made by the State legislature, and by those made and continued in recent years by the acts of Congress, developed, as originally designed, into an institution where are taught not only the branches that relate to agriculture and the mechanic arts, but also the sciences and arts in general that relate to the industrial development of modern civilization, therefore:

SECTION 1. *Be it enacted by the General Assembly of Alabama,* That said institution shall hereafter be known and designated as The Alabama Polytechnic Institute, it being provided that said Institute shall continue to perform the functions of the State college for the benefit of agriculture and the mechanic arts, in accordance with the provisions of the Acts of Congress of July 2, 1862, granting lands to the several States and territories for collegiate purposes.

Approved January 27, 1899.

(Official)

ROBT. P. McDAVID,
Secretary of State.

DONATIONS TO THE LIBRARY.

United States Government—Public Documents, 148 volumes.

Dr. P. C. Candidus, Mobile, Ala.—Works on Botany, Pharmacy, and Chemistry, 110 volumes.

American Union League Society—Facing the Twentieth Century, by James M. King, 1 volume.

T. A. Coghlan, Sydney, N. S. W.—Wealth and Progress of New South Wales, 1 volume.

A. C. Vandiver—Glomerata, volume 2.

L. B. Rainey—Glomerata, volume 3.

Dr. J. L. M. Curry—Peabody Educational Fund, 2 volumes.

DONATIONS TO THE DEPARTMENT OF ELECTRICAL
ENGINEERING.

General Electric Co., 1 constant potential enclosed arc lamp, 60 incandescent lamp manuals.

The Adams Bagnall Co., 1 constant potential enclosed arc lamp.

The Roebling Co., samples of insulated wire for testing.

American Wire Co., samples of insulated wire for testing.

The Okonite Co., samples of insulated wire for testing.

Electric Appliance Co., samples of insulated wire for testing.

The Westinghouse Electric & Mfg. Co., 50 street railway histories.

DONATIONS TO AGRICULTURAL DEPARTMENT.

German Kali Works, New York, 2 tons kainit, $\frac{1}{2}$ ton muriate of potash.

L. B. Baker Mfg. Co., Racine, Wis., 1 sheep collar.

Dr. J. A. Myers, New York, 3 sacks nitrate of soda.

U. S. Dept. of Agriculture, assortment of field seeds.

DONATIONS TO THE MUSEUM.

Fossils and bird eggs from Miss Bell.

Granite from Greenland and bird's skin, from Dr. Remus Persons.

Cast of trilobite from Prof. O. D. Smith.

Indian arrow head from Miss Grout.

Indian arrow head and shells from C. H. Billingsley.

Alabama fossils from C. H. Billingsley.

Conglomerate from F. Ashcraft.

Indian arrow heads from Dr. McElhany.

Alabama fossils from Miss Cozart.

Relics from an Indian mound from H. P. Powell.

Columbian silver half dollar from E. A. Miller.

Kauma gum from Samoan Islands from S. Stollenwerk.

Mica and petrifications from C. L. Harold.

Petrifications from E. H. Foy.

Quartz crystals from W. D. McCreary.

Quartz crystal from M. H. Kahn.

Indian arrow heads and pottery from E. M. Boyd.

Fossil plant from F. J. Rigney.

Fossils from W. B. Patterson.

ENTRANCE EXAMINATIONS.

The following examinations are given as models of entrance examinations, and will suggest to teachers and students the nature and scope of the work required for admission to the freshman class.

EXAMINATION IN ENGLISH.

I. GRAMMAR.

- I. Name the parts of speech. Give examples of each.
- II. Name and decline the personal pronouns.
- III. Compare the following: *good, ill, bad, happy, perfect*.
- IV. What is an irregular verb? A regular verb? An intransitive verb? A transitive verb? An impersonal verb? Give example of each.
- V. Give the principal parts of the following verbs: *to be, to see, to dig, to lie (to recline), to lay, to set, to sit, to write, to love, to crow*.
- VI. Give in full the present and past tenses, Indicative and Subjunctive Modes, of (1) *to be*, (2) *to love*.
- VII. How is the Passive voice formed? Give Passive voice, third person, singular number, Indicative and Subjunctive of *to ask*.
- VIII. Form the possessive singular and plural of *pony, valley, mouse, ox, princess, it, man*. Form plural of following words: *Radius, phenomenon, cupful, Mr., Mrs., talisman, genius, genus, attorney, zero, hero, brother-in-law*.
- IX. Parse in full the following sentence: He that observeth the wind shall not sow.
- X. Correct any errors in the following sentences:
 1. Dot your *i s* and cross your *t s*.
 2. Dr. Arnold of Rugby kept a famous boy's school.
 3. Can I speak to my desk-mate?
 4. I dont know nothing about your affairs.
 5. Between you and I, I don't believe it.
 6. Have you seen the book of my friend Story?
 7. Has everybody performed their examples?
 8. The oldest daughter has married a banker whom they say is very wealthy.
 9. I intended to have written.
 10. We are acquainted neither with the doctor or with his family.
 11. I will be drowned; nobody shall help me.
 12. We shall not go without it stops raining.

II. LITERATURE AND COMPOSITION.

Ivanhoe.

- I. Who are the main characters in *Ivanhoe*? What is the date of the events of the story? Who was King of England at that time?
- II. Describe the following: (1) Cedric and his home. (2) Manners and Customs of the Saxons. (3) Relations of the Saxons to the Normans.
- III. Tell something about Isaac of York, Rebecca, Rowena.
- IV. Describe the tournament of Ashby.
- V. Who was Robin Hood?
- VI. Describe the assault on the castle of Front de Bœuf.
- VII. *Give the conclusion of the story.*
- VIII. Write a letter giving account of your journey from home to Auburn. Pay especial attention to form, spelling, and punctuation.

NOTE.—The subject of Examination for 1900, will be taken from the list of books in Literature required for admission. [See p. 39.]

EXAMINATION IN MATHEMATICS.

I. ARITHMETIC.

- I. Write ten million, four thousand, and fifty: one thousand and two, ten millionths.
 - II. Find least common multiple of 60, 15, 24 and 25.
 - III. Reduce $1\frac{3}{5} \times \frac{5}{8} \times 7\frac{1}{2} - \frac{1}{2}$ of $\frac{4}{5} \times 5$.

$$\left(\frac{2}{3} - \frac{3}{2}\right) \times \frac{1}{2}.$$
 - IV. If 15.25 lbs. of meat cost \$.68 $\frac{5}{8}$, how many lbs. of meat can be bought for a bale of cotton weighing 520 lbs sold for 7 $\frac{1}{2}$ cents a pound?
 - V. A man sold a horse for \$125.00 and gained 12 $\frac{1}{2}$ %, how much did the horse cost?

April 23rd, 1898
 - VI. One day after date I promise to pay John Doe, or order, one hundred and twenty-five $\frac{75}{100}$ dollars, value received. Richard Roe.
- Endorsements:
- Dec. 25th, 1898—\$25.00.
 April 1st, 1899—\$50.00.
 How much is due Sept. 15th, 1900. Rate of interest 8%?

II. ALGEBRA.

I. (a.) Simplify by removing parentheses and combining terms:

$$2x - (y - [4x - (y - 2x) - 3x]).$$

(b.) Divide $x^{4m} - x^{2m} - 1$ by $x^{2m} - x^m - 1$.

II. Factor (a.) $4x^4 - 9y^2$; (b.) $x^2 - x - 12$; (c.) $x^2 - a^2 - 2ab - b^2$; (d.) $x^{m-n-1} - 2$.

III. Simplify (a) $\frac{1}{x^2 - 5x - 6} - \frac{x-4}{x^2 - 4x - 3} - \frac{x-3}{x^2 - 3x - 2}$

$$\text{" (b.) } \frac{a^2 - b^2}{a^2 - 3ab - 2b^2} \times \frac{ab - b^2}{a^2 - ab} \div \frac{(a-b)^2}{a^2 - ab}$$

IV. Find value of x in (a) $\frac{11x - 2}{14} - \frac{x}{7} - 4 = \frac{3x - 2}{2} - \frac{2 - 7x}{3}$

. Verify.

$$\text{" " " " (b) } \frac{x}{a-b} - \frac{5a}{a-b} = \frac{2bx}{a^2 - b^2}. \text{ Verify,}$$

V. Multiply $x^{\frac{2}{3}} - x^{\frac{1}{3}} y^{\frac{1}{3}} - y^{\frac{2}{3}}$ by $x^{\frac{1}{3}} - y^{\frac{1}{3}}$.

VI. Expand $(x^2 - x^{-2})^2$ and write the result with positive exponents.

VII. Simplify (a.) $\sqrt{50} - \sqrt{18} - \sqrt{98}$; (b.) If $a=8$, $b=4$, $c=2$ find numerical value of $2a^{\frac{3}{2}}b - \frac{3}{2}c^2$; (c.) Extract square root $11 - \sqrt{72}$.

VIII. If the floor of a hall had been 2 feet longer, and 4 feet wider, it would have contained 528 square feet more; but if the length and width had been 2 feet less the floor would contain 316 square feet less. How many square feet in the floor?

III. GEOMETRY.—First Two Books.

I. If two parallel straight lines are cut by a third straight line, the alternate interior angles are equal.

II. The sum of the three angles of a triangle are equal to two right angles.

III. The median of a trapezoid is parallel to the bases and is equal to one half their sum.

IV. A radius perpendicular to a chord bisects it and the arc subtended by it.

V. In the same circle, or equal circles, two angles at the centre have the same ratio as their intercepted arcs.

VI. The radius of the circle inscribed in an equilateral triangle is equal to one third of the altitude of the triangle.

EXAMINATION IN UNITED STATES HISTORY.

1. Give a summary of the Navigation Acts.
2. Make a list of the causes of the Revolutionary War, and explain each briefly.
3. Why did the colonists object to the Stamp Act?
4. Point out the defects of the Articles of Confederation and explain how each of these was remedied in the Constitution.
5. Name three compromises in the Constitution and explain between what parties each was made.
6. Give an account of the Hartford Convention.
7. What was the purpose of the Embargo Act?
8. Explain three of the following:
(1) Ordinance of 1787; (2) Missouri Compromise; (3) Monroe Doctrine; (4) Omnibus Bill.
9. What was meant by Nullification and on what ground did South Carolina base its right to nullify the tariff?
10. Make a list of the causes of the Civil War and explain each.

EXAMINATION IN LATIN.

Required of students who propose to continue that study in the freshman class (not required for admission to college).

- I. (1) Translate Cæsar, Bk. II, Chapter 13.
[Note:—Instead of Cæsar a selection from Nepos, or other equivalent may be substituted.]
(2) Give the principal parts of the first six verbs in the above Latin.
(3) Tell what verbs in the above are in the Subjunctive and explain their use.
(4) Do the same for all verbs in the Infinitive.
- II. (1) How do you express in Latin, (a) the Agent, (b) Manner, (c) Place Where, (d) Duration of Time?
(2) Give an example in *English* of (a) Hortatory Subjunctive, (b) Clause of Purpose, (c) Indirect Question.
- III. Write in Latin:
(1) Cæsar comes (venire) to Italy.
(2) The soldiers (miles) asked (rogare) aid (auxilium).
(3) We shall come to Italy from Greece (Græcia).

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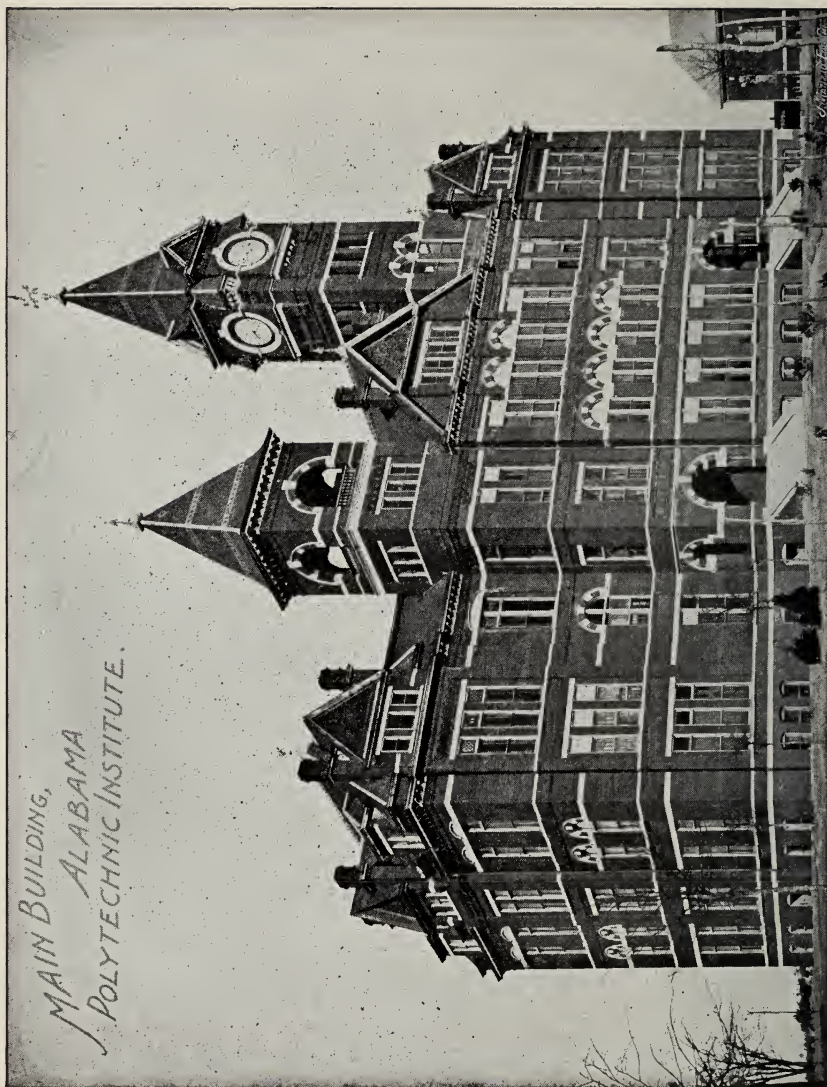
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STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS.

AUBURN, ALABAMA

1901.

MONTGOMERY, ALABAMA
THE BROWN PRINTING COMPANY PRINTERS AND BINDERS
1901

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His Excellency, WM. J. SAMFORD, President*Ex-Officio*.
JNO. W. ABERCROMBIE, Superintendent of Education..*Ex-Officio*.

TERM EXPIRES, 1907.

JONATHAN HARALSON,..Selma, Ala.
THOMAS WILLIAMS,..Wetumpka, Ala.
J. A. BILBRO,Gadsden, Ala.

TERM EXPIRES, 1905.

J. M. CARMICHAEL,Ozark, Ala.
W. K. TERRY,Birmingham, Ala.
T. H. FRAZER,Mobile, Ala.
I. F. PUESER,..Opelika, Ala.

TERM EXPIRES, 1903.

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TANCKED BETTS,Huntsville, Ala.
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R. W. BURTON, Secretary.

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Commandant and Acting Professor of Military Science.

PAUL INGOLD MURRILL, M. Sc., PH. D.,
Acting Professor of General and Agricultural Chemistry.

*Absent on leave, at University in Germany.

Consent

HENRY HEARST KYSER, E. & M. E.,
Assistant Professor of Physics and Electrical Engineering.

MICHAEL THOMAS FULLAN, M. Sc.,
Assistant Professor of Mechanic Arts.

CLIFFORD LEROY HARE, M. Sc.,
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ROBERT JEFFERSON TRAMMELL, C. E.,
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WILLIAM OSCAR SCROGGS, M. Sc.,
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(a) WILLIAM WELCH HILL, E. & M. E.,
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JAMES RICHARD RUTLAND, B. Sc.,
Assistant in Sub-Freshman English and Mathematics.

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CHARLES LEWIS HAROLD, B. Sc.,
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WILLIAM CHRISTOPHER MARTIN, B. Sc.,
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ENOCH MARVIN MASON, B. Sc.,
Assistant in Biology and Pharmacy.

ARTHUR FLOURNOY JACKSON,
Student Assistant in charge of Gymnasium.

(a) Appointed March 6th, vice T. H. McAdory resigned.
(b) Appointed January 1st, vice H. P. Powell, resigned.
(c) Appointed March 1st, vice E. A. Miller, resigned.

COMMITTEES OF THE FACULTY.

COMMITTEE ON DISCIPLINE,
Professors Smith, Thach, Mell.

COMMITTEE ON ENTRANCE EXAMINATION,
Professors Smith, Thach, Petrie.

COMMITTEE ON EXAMINATION OF SPECIAL STUDENTS.
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COMMITTEE ON LIBRARY,
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Professor Mell.

SECRETARY OF ALUMNI RECORD,
Professor Crenshaw.

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JONATHAN HARALSONSelma, Ala.

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B. B. ROSSChemist.
C. A. CARY, D. V. M.Veterinarian.
J. F. DUGGARAgriculturist.
F. S. EARLE,Biologist and Horticulturist.
J. T. ANDERSONAssociate Chemist.

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*C. W. NIXONSecond Assistant Chemist.
H. S. HOUGHTONThird Assistant Chemist.
T. U. CULVERSuperintendent of Farm.
H. W. CLARKAssistant Agriculturist.
C. F. AUSTINAssistant Horticulturist.
C. F. BOYD.....Assistant to Director.

OFFICER IN CHARGE OF FARMERS' INSTITUTES.

DR. C. A. CARY.

* Appointed Feb. 1st, vice J. Q. Burton, resigned.

The Institute is a distinctive school of Science and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts established by the State in 1872, by endowing it with the land-grant appropriation made by the U. S. Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I—IN AGRICULTURE AND HORTICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who entered upon this course of study.

II—IN MECHANIC ARTS.

The laboratory of mechanic arts is used as an auxiliary in industrial education, and as a school of manual training in the arts that constitute the foundation of various industrial pursuits. The work performed by the students is instructive in character, as in any other

laboratory, and the classes are taught in sections by a series of graded lessons under the supervision of the professor. In the lower classes of the Institute each student enters this school and is assigned three exercises a week, each exercise being two hours long.

The object of this laboratory is not to teach a trade, but to educate, to discipline and train the eye and the hand, as well as the mind, and thus by associating manual and mental training, to educate thoroughly the student for the duties of life, whatever may be his vocation. There is no attempt to teach students special skill in constructing articles of commercial value, but all the exercises are systematically arranged and designed for purposes of education.

The wood department is located in a commodious hall, 90x50 feet, and is provided with a twenty-five horsepower Corliss engine, a planer, circular saw, band-saw, two scroll saws, a buzz planer, a pattern maker's lathe, twenty-four stands, each with a lathe and a full set of tools, and thirty benches for carpenter work with the tools requisite for construction.

A brick building, 52x87 feet, with two rooms, has been constructed especially for instruction in working iron.

One room is equipped with twenty-four forges and tools required for a forge department, and the other with a Colliau cupola furnace, a core oven, a brass furnace, molding benches, foundry crane constructed by students, and special tools for use in a foundry.

The forge and foundry rooms are furnished with a fan and exhauster, supplied with power from an engine, constructed by the students in mechanic arts.

The machine department occupies a brick building, 30x50 feet, and is equipped with eleven engine lathes, one speed lathe, one 20-inch drill press, one 10-inch sensi-

tive drill, one 16-inch shaper, one 5-foot planer, one universal milling machine, a corundum tool grinder, a small emery grinder, a No. 1 Brown & Sharpe universal grinding machine, and a power hack saw.

The chipping and filing department is arranged with benches, vises and tools for twelve students.

The tool room is well supplied with special tools for use in instruction, including a machine for grinding twist drills. The rooms are lighted with electricity whenever necessary.

III—IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for Seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV—IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement and is equipped with many fine instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, and other laboratory instruments, the department is supplied with representatives of the best types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making break-down tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a thirty-five horse power Westinghouse engine. In this building are installed the following dynamos:

Edison compound 12 Kilo-watt generator, Thomson-Houston 150 light 110 volt dynamo, Weston 150 volt 25 ampere generator, Crocker-Wheeler one horse power motor, Ideal 3 phase alternator, Brush 6 arc light dynamo with lamps, two Baxter street car motors, 20 horse power each (so connected as to be used as direct or alternating current motors or generators), one 5 horse power three phase motor, one General Electric 20 horse power motor, one 40 light shunt dynamo, one Edison 3 Kilo-watt generator, one Stanley induction motor with condensers, two bi-phase induction motors (built by students), one 9 light Thomson-Houston arc machine, two phase alternator and 500 volt 20 ampere generator, made by students. There is also in connection with this department at the experiment station, a ten horse power motor, made by students, which is operated by the 500 volt generator in the dynamo room.

V—IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12 inch spark, and other apparatus of value.

VI—IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII—IN BOTANY.

In the work of the agricultural experiment station there is a botanical garden under the charge of the professor of botany; investigations in botany are given special attention, and opportunities are offered advanced students for practical work in a laboratory especially fitted with microscopes, tables, a dark room for photographic work, and appliances needed for instruction and research. This department is provided with Auzoux's elastic models of seeds and flowers for teaching botany.

VIII.—IN BIOLOGY.

The laboratory in this department adjoins the lecture room of the professor, and is furnished with tables, ex-

cellent microscopes and appliances for investigation. Each student of the class works under the supervision of the professor.

IX—IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

X—IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accomodate fifty students, is provided with tables, lock-boxes, etc.

XI—IN MECHANICAL ENGINEERING.

The mechanical course has been extended to include experimental work in mechanical engineering.

The apparatus available for this instruction is as follows: A 45-horse power Imperial Cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump, a 25-horse power Harris-Corliss engine, a 35 horse power Westinghouse engine, two 9 horse power engines constructed by students, the boilers belonging to the regular power plant, a Deane duplex steam pump, a 4-horse power gasoline engine, an Ericsson hot air engine, a New York air pump, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, thermometers, a pyrometer, scales.

a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester with weights for correcting the standard gauge, a 35,000-pound testing machine, a Henning micrometer extensometer, and a Carpenter calorimeter with the necessary auxiliary apparatus for determining the heating value of different kinds of coal.

This work is now carried on in the lower story of the annex to the chemical laboratory. This room is 30x60 feet in size and was specially designed and fitted up for this purpose. A three-inch steam main has been laid from the boiler house, thus securing a steam supply in the building for all work requiring it. The work is thoroughly practical, and it is desired to extend it as rapidly as the funds available for the purchase of apparatus will allow.

XII—IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light especially for this department. This Laboratory is used by the professor and students each afternoon for three months.

XIII—IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to chemical laboratory, and is pro-

vided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor, from five to eight hours, six days in the week.

The facilities are increased as means are available.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and in addition the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160 x 71 feet and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90 x 50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page this is a two story structure, 40 by 60 feet, with a rear projection, 35 by 60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

The laboratory for advanced work in chemistry will accommodate thirty students and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering, and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60 by 26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.



PHOTO BY G. W. M. C.

CHEMICAL LABORATORY.

HONOR ROLL FOR CONDUCT, IN 1900.

The following cadets having received no demerits during the year, their names are placed upon the honor roll for good conduct:

SUB-FRESHMAN CLASS.

Haynie, C. D.	Rutledge, C. P.
Jones, A. D.	Stewart, B. M.
Matthews, J. V.	Williamson, G. T.
Roberts, R. H.	Sullivan, H. J.

SPECIAL AND IRREGULAR STUDENTS.

Brannon, P. A.	Marks, G. M.
Crumpler, L. H.	Rennie, A. K.
Cameron, W. J.	Reid, H. V.
Conner, H. H.	Sargent, H. O.
Haigler, W. H.	Sellers, W. A.

Stickler, H. S.

FRESHMAN CLASS.

Allen, G. W.	Jordan, I. L.
Bize, M. L.	Kauffman, R.
Bruister, W. J.	Knight, W. J.
Chipley, D.	Matson, T. H.
Davis, H. E.	Maberry, E. L.
Davis, W. W.	McLain, A. D.
Goldthwaite, C. B.	Mitchell, J. H.
Halsey, W. L.	Preuit, G. N.
Hawkins, H. C.	Rhodes, R. G.
Hill, G. B.	Thornton, W. L.
Horn, A. G.	Walker, I. W.
Hunt, F. E.	Yonge, H. M.

Moseley, W. F.

SOPHOMORE CLASS.

Askew, W. M.	Kyser, J. A.
Dawson, R. G.	Swanson, J. G.
Ellis, M.	Snedecor, G. W.
Hamilton, W. B.	Wallace, C. N.
Houston, F. J.	Webb, J. O.
Johnson, C. J.	Willis, W. D.

Yonge, J. E. D.

JUNIOR CLASS.

Arnold, R. T.	Kelly, E.
Bivings, F. C.	Killebrew, E. S.
Bragg, T.	Letcher, J. T.
Eagar, W. H.	McCrary, W. D.
Fitch, H. L.	McGehee, W. B.
Felton, L. M.	Meriwether, B. B.
Foy, J. D.	Parker, D. J.
Goggans, J. O.	Smith, H. M.
Haley, P. S.	Turpin, M. C.
Jackson, A. F.	Werner, H. E.
Kahn, M. D.	Williams, J. C.

SENIOR CLASS.

Ashcraft, F.	Jepson, J. W.
Beeson, M. A.	Kahn, M. F.
Boyd, G. F.	Kelley, W. E.
Boyd, J. W.	Martin, W. C.
Brooks, M. M.	Maples, J.
Bukofzer, E.	Mason, E. M.
Culver, A. N.	McGehee, J. H.
Dowdell, W. C.	Miller, E. A.
Duncan, E. M.	Nixon, C. W.
Duncan, L. N.	Osburn, W. F.
Flowers, J. J.	Powell, H. P.
Hall, H. Y.	Rutland, J. R.
Hall, R. B.	Rutledge, W. S.
Heard, E. Z.	Shuff, J. W.
Illges, J. P.	

GRADUATES IN 1900.

CLASS OF 1900.

HONOR GRADUATES.

COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

John William JepsonSouth Carolina

COURSE IN CIVIL ENGINEERING.

William Christopher MartinBarbour

GENERAL COURSE.

Charles Lewis HaroldEscambia

COURSE IN PHARMACY.

Enoch Marvin MasonLee

DEGREES.

BACHELOR OF SCIENCE.

Frank Hunter AndersonBullock

William Lawrence AndersonMontgomery

Fletcher AshcraftLauderdale

Malcolm Alfred BeesonEtowah

John Samuel Black Lee

Guy French Boyd Lee

Jesse Wright Boyd Lee

Millard Morse BrooksEscambia

Edwin Bukofzer Tennessee

Rufus White Butler Lee

Judson Lamar Burke Lee

Andrew Crozier Cameron Jefferson

Sallie McGehee Clark Montgomery

Asbury Nicholson Culver Lee

Emma Beall Culver Lee

William Crawford Dowdell Lee

Ellis Madison Duncan Franklin

Luther Noble Duncan Franklin

Rutherford Sylvanus Finch Montgomery

John Jefferson Flowers Butler

Erle Humphreys Foy Barbour

Bertha Mae Grout Lee

Roland B Hall	Georgia
Harry Young Hall	Jefferson
Charles Lewis Harold	Escambia
Edward Zellars Heard	Lee
Mabel Heard	Lee
Mary Katherine Hollifield	Lee
George Martin Illges	Montgomery
John William Jepson	South Carolina
Walter Eldrade Johnson	Madison
Moses Frank Kahn	Lee
Wilbur Edrald Kelley	Jefferson
John Maples	Russell
William Christopher Martin	Barbour
Enoch Marvin Mason	Lee
James Hardie McGehee	Montgomery
Graham Edwin Merchant	Lee
Edward Andrew Miller	Marshall
William Livingston Neill	Jefferson
Charles Wellington Nixon	Tennessee
William Forney Osburn	Lee
Hiram Perry Powell	Georgia
Fleming James Rigney	Madison
James Richard Rutland	Chambers
William Stowe Rutledge	Lee
Frederick Blount Shepard	Mobile
Mary Robbins Sampey	Conecuh
John Winfred Shuff	Talladega
Joseph Manning Steiner	Butler
Moses Conrad Wright	Macon

MASTER OF SCIENCE.

Robert Higgins Adams	Pike
Bailey Edgar Brown	Morgan
Walter Eldrade Johnson	Madison
Kate Meade Lane	Lee
William Oscar Scroggs	Georgia

CIVIL ENGINEERING.

Arthur Henry Feagin	Barbour
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ELECTRICAL AND MECHANICAL ENGINEER.

Thomas Hennington McAdory	Jefferson
Isham Fennell McDonnell	Madison

DISTINGUISHED STUDENTS.

Students who receive a grade above 90 in three studies in the freshman class, in four in the Sophomore, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded

HONOR CERTIFICATES.

The following students received honor certificates in 1900:

SENIOR CLASS.

Malcolm Alfred Beeson	Etowah
John Samuel Black	Lee
Jesse Wright Boyd	Lee
Edwin Bukofzer	Tennessee
Sallie McGehee Clark	Montgomery
Emma Beall Culver	Lee
William Crawford Dowdell	Lee
Luther Noble Duncan	Franklin
Bertha Mae Grout	Lee
Roland B. Hall	Georgia
Harry Young Hall	Jefferson
Charles Lewis Harold	Escambia
Mary Katherine Hollifield	Lee
John William Jepson	South Carolina
Moses Frank Kahn ..	Lee
William Christopher Martin	Barbour
Enoch Marvin Mason	Lee
Edward Andrew Miller	Marshall
Charles Wellington Nixon	Tennessee
William Forney Osburn ..	Lee
Fleming James Rigney	Madison
James Richard Rutland	Chambers
Mary Robbins Sampey	Conecuh

HONOR STUDENTS IN THE JUNIOR CLASS.

COURSE IN CHEMISTRY AND AGRICULTURE.

Thomas Bragg Lee

COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

Eugene Flynn Enslen Jefferson

CIVIL ENGINEERING.

Paul Shields Haley Walker

GENERAL COURSE.

John Talbert Letcher Macon

COURSE IN PHARMACY.

William Boyd McGehee Montgomery

JUNIOR CLASS.

Robertson Tanner Arnold Florida

Herschel Winston Bass St. Clair

Thomas Bragg Lee

William Hamilton Eagar Winston

Eugene Flynn Enslen Jefferson

John Drewry Foy Barbour

Paul Shields Haley Walker

Arthur Flournoy Jackson Georgia

William Boyd McGehee Montgomery

Emmett Stephens Killebrew Dale

John Talbert Letcher Macon

Karl Edward Lindrose Mississippi

Isaac Lenoir Moore Lee

Dorsey Julian Parker Escambia

Shepherd Harrison Roberts Montgomery

Louis Sternfeld Montgomery

Henry Edward Werner Texas

SOPHOMORE CLASS.

William Warren Askew Georgia

William Cruse Coles Marshall

Jesse Duncan Elliott Minnesota

Marvin Ellis Morgan

James Browder Garber Hale

Morris Ketchum New York

James Allen Kyser Dallas

Martin James Lide Dallas

Richard Blount Shepard	Mobile
George Waddell Snedecor	Jefferson
John Griffin Swanson	Macon
Walker Dorr Willis	Florida
John Eayres Davis Yonge.....	Florida.

FRESHMAN CLASS.

Dudley Chipley	Florida
Earl Cline	Jefferson
Sidney Cornell	Jefferson
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
Thomas Joseph Dowdell	Montgomery
William Lanier Halsey	Madison
Frank Edward Hun	Jefferson
Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
Thomas Hatcher Matson	Talladega
John Harris Mitchell	Georgia
Gregg Newton Preuit.....	Lawrence
Russell Bates Preuit	Lawrence
William Watson Rutland	Chambers
William Lawson Thornton	Talladega
Ivy Whitson Walker	Colbert
Henry Mathews Yonge	Florida

CATALOGUE OF STUDENTS.

FOR THE SESSION OF 1900-1901.

GRADUATE STUDENTS.

[*Residence in Alabama when State is not given.*]

NAME.	RESIDENCE.
Guy French Boyd	Lee
Jesse Wright Boyd	Lee
Mattie Lucile Burton.....	Lee
Toccoa Cozart	Lee
Emma Beall Culver	Lee
Ellis Madison Duncan	Franklin
Charles Lewis Harold	Escambia
Edward Zellars Heard	Lee
Mabel Heard ..	Lee
John William Jepson	South Carolina
William Christopher Martin	Barbour
Enoch Marvin Mason	Lee
Edward Andrew Miller	Marshall
James Lewis Molder.....	Chambers
Charles Wellington Nixon	Tennessee
Hiram Perry Powell	Georgia
James Richard Rutland	Chambers

UNDERGRADUATE STUDENTS.

SENIOR CLASS.

Robertson Tanner Arnold	Florida
Herschel Winston Bass	St. Clair
Idaline Bell	Lee
Frank Carlisle Bivings	Georgia
Kenneth Bradford	Montgomery
Thomas Bragg	Lee

Samuel Hamner Browne	Tuscaloosa
Salmon Holmes Burns	Lee
David James Castleman	Hale
Herschel Henry Conner	Macon
William Hamilton Eagar	Winston
Eugene Flynn Enslen	Jefferson
LeRoy Madison Felton	South Carolina
John Drewry Foy	Barbour
James Olney Goggans	Tallapoosa
Walter Lee Greene	Lee
William Hope Haigler	Montgomery
Paul Shields Haley	Walker
Alexander Cameron Hannon	Montgomery
Michael Smith Harvey	Lee
Charles Henry Haynes	Bullock
Daniel Hagood Haynes	Dallas
James Kelly Haynie	Montgomery
Arber Samuel Hertz	Georgia
Robert Holland Hood	Jefferson
Arthur Flournoy Jackson	Georgia
James Baxter Jackson	Lee
Jefferson Franklin Jones	Sumter
Myron Daniel Kahn	Lee
Claude Kauffman	Mobile
Emmett Stephens Killebrew	Dale
William Reid Lancaster	Lee
John Talbert Letcher	Macon
Karl Edward Lindrose	Mississippi
Walter Deems McCrary	Lee
William Boyd McGehee	Montgomery
Benjamin Baldwin Meriwether	Montgomery
Abram Hill Mitchell	Lee
Isaac Lenoir Moore	Lee
Merrill Hastings Moore	Montgomery
William Louis Noll	Tennessee

Dorsey Julian Parker	Escambia
James Cochran Phelps	Lee
James Blackmon Powell	Bullock
Shepherd Harrison Roberts.....	Montgomery
Harvey Owen Sargent	Franklin
Oscar Menderson Schloss.....	Barbour
Lyman Hall Shaw	Sumter
Henry Alexander Skeggs	Morgan
John Hunt Skeggs	Morgan
Matthew Scott Sloan	Mobile
Holland McTyeire Smith:	Lee
Louis Sternfeld	Montgomery
Godfrey Rhodes Thomas.....	Sumter
Manly Curry Turpin	Virginia
Henry Edward Werner	Texas
Leonidas Wharton	Cherokee
Gaius Whitfield.....	Marengo
Jere Crawford Williams	Lee
John Rutledge Williams	Jefferson
Edward Houston Wills	Lee

JUNIOR CLASS.

Oliver Hannibal Alford.....	Marshall
William Warren Askew	Georgia
Frederick Cornelius Atkinson	Dale
Charles Homer Billingsley	Elmore
Edward Lambeth Carroll	Florida
William Cruse Coles	Marshall
Clyde Allen Collins	Hale
Alpheus Mallette Davis	Florida
Robert Geoghegan Dawson	Montgomery
Jesse Duncan Elliott	Minnesota
Marvin Ellis	Morgan
James Douglas Farley	Lee

Clarence Eugene Feagin	Bullock
James Browder Garber	Hale
Arthur Rodfer Gray	Florida
Jeremiah Warren Gwin	Jefferson
William Houston Gwin	Jefferson
William Bulger Hamilton	Elmore
Clifton Duane Haynie	Lee
William Tillman Heard	Lee
Oscar Lynn Henry	Marshall
Dallas Tabor Herndon	Henry
Franklin Jerome Houston	Jefferson
Collins James Johnson	Missouri
Albert Sidney Johnson	Colbert
Morris Ketchum	New York
Howard Malcolm Kilpatrick	Georgia
James Allen Kyser	Dallas
Martin James Lide	Dallas
Gaston Joel Lipscomb	Marengo
Earle Irwin McBryde	Wilcox
Thomas Michael McCarroll	Florida
Francis Schroeder Montgomery	Etowah
Henry Bigham Park	Georgia
Douglass Welles Peabody.....	Mobile
Edgar Johnson Pierce	Bullock
Daniel Syers Robertson	Chambers
Richard Blount Shepard	Mobile
Julian Cassius Smith.....	Macon.
George Waddell Snedecor	Jefferson
Enrico Alfonso Washington	Georgia
Clifford Noble Wallace	Elmore
John Osceola Webb	Tallapoosa
Walker Dorr Willis	Florida
Forney Renfro Yarbrough	Georgia
John Eayres Davis Yenge	Florida

SOPHOMORE CLASS.

George Whitfield Allen	Jefferson
Albert Miner Avery	Florida
James Victor Blackwell	Calhoun
Edward Jefferson Bruister	Choctaw
Rush Pearson Burke	Montgomery
Thomas Arthur Caddell	Etowah
William Julius James Chase	Georgia
Dudley Chipley	Florida
William Hudmon Cooper	Lee
Sidney Cornell	Jefferson
Walter Thomas Credille	Georgia
Charles Sanders Culver	Lee
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
William Wert Dinsmore	Morgan
Thomas Joseph Dowdell	Montgomery
Isaac Ball Feagin	Bullock
†William Eugene Finch	Florida
George Bridges Foss	Etowah
Charles Belshaw Goldthwaite	Pike
William Lanier Halsey	Madison
Millard Harwell	Lee
Earnest Cecil Haynie	Lee
Bell George Hazard	Calhoun
Henry Hiden	Jefferson
George Bloise Hill	Talladega
William Hill	Etowah
Alexander Grice Horn	Sumter
John David Hudson	Lee
James Daughtry Hudson	Georgia
Frank Edward Hunt	Jefferson
†Ira LaFayette Jordan	Bullock.

†Not in full standing.

William George Karnathan	Choctaw
Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
John Fulton Lanier	Madison
Carl Lay	Etowah
George Duncan Lesesne	Mobile
Percy McLean Marshall	Georgia
Winfield Scott Martin	Mississippi
John Van Valkenburg Matthews.....	Madison
Thomas Hatcher Matson	Talladega
†Ernest Lynnwood Mayberry.....	Macon
Allen Davis McLain	Lee
Robert Peyton Mims.....	Jefferson
John Harris Mitchell	Georgia
William Pitman Moon	Coosa
Thomas William Morgan.....	Jefferson
James Porter Paterson	Montgomery
Christopher Henderson Pinson	Sumter
†Albert Wellman Pratt	Madison
David Philips Pruett	Bullock
Wallace Powers Pruitt	Lowndes
George Daniel Randle	Jefferson
James Henry Randle	Bullock
John Patrick Rembert	Mississippi
Paul Rigney	Madison
William Richard Rison	Madison
†Roy Gustavus Rhodes.....	Marengo
Tod Hewitt Roberts.....	Jefferson
William Watson Rutland	Chambers
Clifford Philip Rutledge	Lee
Hans Schmidt	Jefferson
Edmund Rhett Taber	Montgomery
Edward Taylor	Marengo
Louis Earle Thornton	Florida

† Not in full standing.

William Lawson Thornton	Talladega
James Feagin Tompkins	Lee
Filo Harris Turner	Florida
William Micou Turnley	Elmore
Ivy Whitson Walker	Colbert
Joseph Dorrah Walker	Jefferson
Walter Harry Wiley	Pike
Ira Dateman Williams.....	Elmore
Henry Mathews Yonge	Florida

FRESHMAN CLASS.

†William Nevin Adkins	Georgia
Henry Alexander Allison	Sumter
William Leroy Alston	South Carolina
Frank Gordon Bell	Lowndes
†William Henry Bell	Lowndes
†Nathan Arnold Beringer	Barbour
Irby Boyd.....	Pike
Jefferson Edward Brown	Pike
Borden Montgomery Campbell.....	Eutaw
Julian Sidney Chambers	Montgomery
Alan Armstead Chester	New York
James Henderson Childs	Georgia
William Lawrence Dumas	Mobile
Earlie Roy Emrick.....	Jefferson
Frank Trimble Evans	Georgia
Clarence Evelyn Field	Jefferson
Joseph Cochrane Franklin	Bullock
Frederick Emanuel Geibel	Montgomery
Walter Summerville Going	Jefferson
James Buchanan Green.....	Crenshaw
Elmus Knowles Hanby.....	Jefferson
Walter Leonidas Harwell	Lee
Guy David Hawkins	Jefferson

† Not in full standing.

†Clay Irby Hudson	Lee
Robert Walter Huey	Jefferson
Charles Jefferson Jackson.....	Montgomery
Max Gordon Jepson	South Carolina
Arthur Dean Jones	Pike
Allen Green Jones	Dallas
Chauncey Smith Joseph	Montgomery
Thomas Jefferson Killebrew	Dale
Edward Philip Lacey	Jefferson
Tracy Lay	Etowah
Francis Lyon	Lowndes
Thomas VanRensaler Matthews	Calhoun
Isaac Sadler McAdory	Jefferson
John William McConnell	Jefferson
John McDuffie	Monroe
Henry McDonnell	Madison
Thomas Pettus McElderry	Talladega
William Monroe Meredith	Green
Edward Adolphus Miles	Mobile
Frederick Shealy Middleton	Chambers
Lee Penn Montgomery	Lee
Andrew Blair Nelson	Walker
Fenton Forest Newman	Talladega
Forney Renfro	Lee
Thomas Andrew Riley	Jefferson
Richard Hoskins Roberts.....	Sumter
James Lon Robinson	Jefferson
Charles McPherson Rogers	Sumter
Oscar Early Rutland	Lee
John Van Ryan	Madison
Joseph McMurray Seabrook.....	Talladega
James Emmet Seale	Sumter
Frederick Samuel Shepherd.....	Tennessee

† Not in full standing.

William Martin Shepard	Mobile
Berner Leigh Shi	Georgia
Washington Irving Shi	Georgia
Solomon Kauffman Simon	Marengo
Philip Ware Smith	Chambers
† John Deal Steele	Greene
Paul Stewart	Jefferson
John Randolph St. John	Mobile
Henry Jefferson Sullivan	Washington
† Benjamin Walton Taylor	Jefferson
Albert Lee Thomas	Lee
John Walker Wakefield	Talladega
William Francis Ward	Lee
Thornton Albert Ward	Lee
Fletcher Peavy Whatley	Lee
George Traylor Williamson	Lee
John Mayer Wilson	Clark
William Mason Wilson	Etowah
John Washington Wood	Jefferson

SPECIAL AND IRREGULAR STUDENTS.

Abbreviations: Ph.—Pharmacy; E. & M. E.—Electrical and Mechanical Engineering; C.—Chemistry; Ag.—Agriculture; C. E.—Civil Engineering; M. A.—Mechanic Arts.

NAME.	RESIDENCE.
Charles Pierce Anderson.....PH.....	Montgomery
William Spaight Anderson.....	Jefferson.
Ralph Calloway Armstrong	Lee
Martin Vanburen Beason	Georgia
Arthur Bernard Beringer.....PH.....	Barbour
Marshall Leonard Bize	Georgia
Johnson Wilson Black	Mobile
*Moffatt Grier Bonner	Wilcox
William Jones Bonner.....E. & M. E.....	Wilcox

*Deceased.

† Not in full standing.

Wallace Edward Brewster	Georgia
Andrew Henry Buchanan...PH. & VET. S..	Montgomery
John Mangum Buchanan.....	Lee
Rufus White Butler.....PH.....	Lee
Arthur Ernest Carter.....PH.....	Shelby
William Hatchett Chandler	Montgomery
Willis Gaylord Clark.....E. & M. E.....	Mobile
Earl Cline	Jefferson
Joseph Henry Corrigan	M. A..... Florida
Lewis Henry Crumpler	PH..... Talladega
Francis Roy Daniel	Mobile
George Parker Dexter	Jefferson
Wiley Frank Dorman	Chambers
Woodson Lee Ennis	Sumter
Martin Conner Folmar	Pike
Ingrahm Barron Foster	PH..... Perry
Albert Edward Gilbert	PH..... Clay
John Hunter Goddard	PH..... Georgia
Alexander Hamilton Green	Florida
Edward Putney Guerrant.....AG.....	Kentucky
Leslie Murphy Hand	PH..... Sumter
James Coulson Harper.....C. E.....	Mississippi
William Bedwell Harrell	PH..... Choctaw
Ethel Julia Harwell	Lee
Henry Clift Hawkins	Lee
Alvis Clift Hawkins	Lee
Alvis Perry Henderson	Limestone
William Jefferson Hearin	Mobile
Mollie Hal Hellfield	Lee
William Dana Hubbard	Dallas
Elbert Carter Jackson	PH..... Pike
Mell Frazer Jackson.....PH. & VET. S.....	Lee
John Samford Jewett	PH..... Florida
William Micou Jordan	PH..... Elmore

Edward Kelly	Montgomery
Oscar Jennings Knox	PH..... Lee
Lottie Everard Lane	Lee
Daniel Stacy Martin.....	E. & M. E.....Barbour
Robert Murdoch Martin	Barbour
Jean Llorca-Marty.....	Nicaragua
Oliveria Masvidal.....	M. A.....Cuba
Christian McDevitt	Pennsylvania
Herbert McLeod	PH..... Pike
Allen Massillon McNeel.....	E. & M. E..Montgomery
William Robert Middleton	Lowndes
Fern Wood Mitchell	Etowah
Martin Theophilus Moody.....	PH.....Calhoun
James Crowder Moore	PH..... Lee
Peter Preer Myhand.....	VET. S. & PH.....Lee
Carlyle Nisbet.....	E. & M. 5.....Georgia
Louis Milton Noll.....	PH.....Tennessee
Sallie Fleming Ordway	Tennessee
William Freeman Owens	PH..... Choctaw
William Burns Paterson.....	AG.....Montgomery
Morris Pelham.....	E. & M. E.....Calhoun
Israel Pickens	PH..... Hale
Bolling Reigns Powell.....	PH.....Montgomery
Alston Keith Rennie.....	PH.....Dallas
Henry Virgil Reid	PH..... Barbour
Carl Robinson	Tallapoosa
Benjamin Riley Sawyer	PH..... Calhoun
Robert Houston Scruggs	PH..... Sumter
George Clement Sequeira	C. E..... Nicaragua
Robert Ware Sistrunk	PH..... Elmore
Hunter Macon Smith	Jefferson
Brady Wilkinson Steele	PH..... Autauga
Henry Sleeth Stickle	C. E..... Lauderdale
Roy Lee Thornton	PH..... Bullock

George Baker Tyson	Montgomery
Guy Hanson UpchurchPH.....	Pickens
Victor Vance	Jefferson
Luz Maria Washington	Georgia
Judson Franklin WebbC. E.....	Lee
Walter Rivers Whitman.....M. A.....	Lee
Annie Lizzie Wright	Lee

SUB-FRESHMAN.

Harry Robert Adams.....	Jefferson
Thomas Eaton Alexander.....	Marengo
†Robert Lehman Ashurst.....	Tallapoosa
Robert Trammell Bagby.....	Lee
Marvin Fitzpatrick Boykin	Lee
Thomas Quincy Bradford.....	Marengo
Thomas Cobb Bradford	Lee
Hubert Gillespie Brown	Pike
†George Washington Bryan.....	Crenshaw
James DeRasete Bryant.....	Wilcox
Andrew Duke Cameron	Macon
Lemuel Jacob Cobb.....	Cherokee
Lynn Lewis Conner	Macon
Benjamin Peeples Cooper.....	Washington
Paul Clifton Croft	Etowah
James Louis Edwards	Jefferson
James Chester Elmer	Mississippi
Edgar Earl Ferrell	Eutaw
Benjamin Fitzpatrick	Montgomery
Eugene Goldthwaite	Pike
James Haynes Gumm	Georgia
†Herbert Elwood Hawkins.....	Lee
†Clute Bernard Hixon	Covington
James Elliott Holt	Russell
Charles Edwin Jackson	Madison
†Frank Otey Johnson	Florida

† Not in full standing.

Claude Bolling Jones	Lowndes
Hilery Boston Jones.....	Baldwin
Alry Carlisle Jordan	Clarke
Thomas Reeves Leavel	Greene
†Thomas Edward Long	Perry
Darrell Francis Marion	Dallas
Joel Angus McGwier	Colbert
†Benjamin McMillan	Mobile
Jay Frank Morgan	Georgia
George Newburgh Montgomery	Washington
†Cicero Lewis Nelson.....	Baldwin
†Benjamin Peeples	Tennessee
†Louis Ames Phillips	Colbert
John Henry Powell	Lee
†Marshall Gowan Price.....	Marengo
Edgar Hill Pritchett	Wilcox
Charles Eugene Rhodes	Marengo
Willis Autray Riley	Covington
Joseph Molton Sadler	Lowndes
Joseph Luther Selden.....	Marengo
†Samuel Homer Thornton.....	Pike
William Biggers Tucker	Lee
Elbert Fain Webb	Cherokee
Thomas Jefferson Webb	Cherokee
†James Samuel Webb.....	Lee
†Fletcher Gordon Webb.....	Lee
Cullen Haddley Wimberly	Sumter
Thomas Pelham Winston	Lee
Walter Scott Wilson	Bullock

† Not in full standing.

SUMMARY.

Graduates.....	17
Senior Class	61
Junior Class ..	46
Sophomore Class	75
Freshman Class	75
Special and Irregular Students.....	83
<hr/>	
Total in College Classes.....	357
Sub-Freshman Class	55
<hr/>	
Total.....	412

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English ..	340	Geology ..	58
History ..	208	Civil Engineering	23
French ..	39	Electrical Engineer'g..	55
German ..	36	Mechanical Engr'g....	57
Latin ..	119	Biology ..	27
Mental Science.....	19	Drawing ..	256
Political Economy ...	51	Mechanic Arts ..	260
Mathematics .. .	303	Military Department..	381
Chemistry .. .	172	Mineralogy ..	22
Chemical Laboratory..	150	Physical Laboratory...	66
Agriculture ..	116	Physiology ..	100
Physics ..	228	Veterinary Science ...	34
Botany ..	97	Pharmacy ..	44
Horticulture ..	37	Bacteriology ..	16

RESIDENCE BY STATES.

Alabama.....	341
Georgia	27
Florida	17
Tennessee	7
Mississippi	5
South Carolina	4
New York	2
Nicaragua	2
Cuba	1
Kentucky	1
Pennsylvania	1
Virginia	1
Texas	1
Minnesota	1
Missouri	1
Total.....	412

MILITARY ORGANIZATION, 1900-1901.

President.

W. L. BROUN.

Commandant.

COL. B. S. PATRICK.

Surgeon.

J. H. DRAKE.

Battalion Staff.

Cadet Captain J. D. Foy, Assistant to Commandant.

Cadet First Lieutenant J. B. POWELL, Adjutant.

Cadet First Lieutenant G. WHITFIELD, Quartermaster.

Cadet First Lieutenant H. H. Conner, Assistant Adjutant.

Cadet Sergeant W. D. WILLIS, Sergeant Major.

Cadet Sergeant J. B. GARBER, Quartermaster Sergeant.

Cadet Captains.

- | | |
|-------------------|-----------------|
| 1. S. H. Roberts. | 3. M. S. Sloan. |
| 2. A. F. Jackson. | 4. E. H. Wills. |

Cadet First Lieutenants.

- | | |
|-------------------|----------------------|
| 1. M. H. Moore. | 5. B. B. Meriwether. |
| 2. W. B. McGehee. | 6. R. T. Arnold. |
| 3. W. L. Greene. | 7. D. T. Parker. |
| 4. M. C. Turpin. | 8. J. T. Letcher. |

Cadet Second Lieutenants.

- | | |
|---------------------|-----------------|
| 1. E. S. Killebrew. | 3. W. H. Eagar. |
| 2. W. R. Lancaster. | |

Cadet First Sergeants.

- | | |
|--------------------|-------------------|
| 1. J. E. D. Yonge. | 3. J. D. Elliott. |
| 2. J. A. Kyser. | 4. W. M. Askew. |

Cadet Sergeants.

- | | |
|--------------------|----------------------|
| 1. G. W. Snedecor. | 10. M. Ketchum. |
| 2. C. A. Collins. | 11. M. Ellis. |
| 3. W. C. Coles. | 12. E. L. Carroll. |
| 4. R. B. Shepard. | 13. M. J. Lide. |
| 5. H. B. Park. | 14. J. O. Webb. |
| 6. D. W. Peabody. | 15. T. M. McCarroll. |
| 7. R. G. Dawson. | 16. W. B. Hamilton. |
| (Color Sergeant.) | 17. C. E. Feagin. |
| 8. J. D. Farley. | 18. D. T. Herndon. |
| 9. F. J. Houston. | |

Cadet Corporals.

- | | |
|--------------------|---------------------|
| 1. W. J. Knight, | 10. P. M. Marshall, |
| 2. H. E. Davis, | 11. W. H. Wiley, |
| 3. W. W. Davis, | 12. W. W. Rutland, |
| 4. D. Chipley, | 13. J. H. Mitchell, |
| 5. H. M. Yonge, | 14. W. L. Thornton, |
| 6. T. J. Dowdell, | 15. F. E. Hunt, |
| 7. A. M. Avery, | 16. W. L. Halsey, |
| 8. T. H. Matson, | 17. E. Taylor. |
| 9. L. E. Thornton, | |

THE A. P. I. CADET BAND.

M. THOS. FULLAN, Bandmaster.

L. STERNFELD, Principal Musician.

- | | |
|------------------|----------------------------|
| A. M. Avery, | W. L. Harwell, |
| R. C. Armstrong, | J. C. Harper, |
| F. C. Atkinson, | I. L. Jordan, |
| N. A. Beringer, | M. D. Kahn, |
| I. Boyd, | C. Lay, |
| V. R. Emrick, | G. N. Montgomery, |
| M. Ellis, | A. B. Nelson, |
| G. B. Foss, | E. J. Pierce, |
| A. R. Gray, | G. Sequiera, |
| M. Harwell, | H. E. Werner, |
| | E. J. CARROLL, Drum Major. |

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

- | | |
|-----------------|------------------|
| 1889. | 1895. |
| A. St. Dunstan, | S. L. Coleman, |
| B. H. Crenshaw, | H. H. Smith, |
| A. J. Burr. | L. B. Gammon. |
| 1890. | 1896. |
| F. D. Milstead, | A. L. Alexander, |
| J. W. Bivins, | W. L. Fleming, |
| G. W. Emory. | W. M. Williams. |
| 1891. | 1897. |
| L. E. Baker, | P. G. Clark, |
| C. C. Johnson, | G. M. Holley, |
| F. J. Bivins. | G. N. Mitcham. |
| 1892. | 1898. |
| H. F. Dobbin, | A. H. Clark, |
| A. L. Jones, | A. McB. Ransom, |
| C. L. Brown. | Jno. Haralson. |
| 1893. | 1899. |
| Joel Dumas, | I. F. McDonnell. |
| C. H. Smith, | A. H. Feagin, |
| J. F. Webb. | T. W. Wert. |
| 1894. | 1900. |
| C. S. Andrews, | E. M. Mason, |
| P. P. McKeown, | H. P. Powell, |
| R. T. Dorsey. | C. W. Nixon. |

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English—(a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition in 1901 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby*; (2) Southey's *Life of Nelson*; (3) Shakespeare's *Julius Caesar*; (4) Longfellow's *Evangeline*; (5) Scott's *Ivanhoe*; (6) Shakespeare's *Merchant of Venice*; (7) Irving's *Sketch Book*; (8) Macaulay's *Essay on Milton*; (9) Scott's *Marmion*; (10) Dickens's *David Copperfield*.

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended to test only a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton*.

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors and fractions*; one book of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Cæsar, in addition to the above subjects.

In pronouncing Latin it is recommended that *ā* be pronounced as in *father*, *û* as the *ā* in *Cuba*; *ē* as in *prey*. *ě* as in *men*; *î* as in *machine*, *ÿ* as in *cigar*; *o* as in *old*, *ö* as in *obey*; *û* as in *rule*, *ü* as in *full*; *j* as *y* in *yard*; *c* always as *k* in *king*; *g* always as *g* in *get*.

For admission to the higher classes, students should be prepared to stand a satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in Algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on those subjects.

It is absolutely essential that students, who hope to succeed, should be well grounded in Arithmetic, Algebra, and Geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the freshman class *without examination* upon the certificate of the president or principal showing definitely that such students have completed satisfactorily all the studies required for admission, as stated in the catalogue and are otherwise admissible."

The privilege of admitting students to the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A....., B.....has attended the (*name the school or academy*) for.....years and has studied the following subjects:

in History.....(*name the books*)

in English.....(*name the books*)

in Algebra.....(*state amount accomplished*)

in Geometry.....(*state amount accomplished*)

in Latin.....(*state books read*)

and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to the.....class, I recommend him for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take a special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile.....	J. D. Wright.
Verner Military Institute, Tuscaloosa.....	W. H. Verner.
University School, Montgomery.....	J. M. Starke.
Mt. Willing High School, Mt. Willing.....	J. Knight.
State Normal School, Jacksonville.....	C. W. Dugette.
Male Academy, Huntsville.....	F. Puryear.
Furman Academy, Livingston.....	L. A. Cockrell.
High School, Opelika.....	J. M. Smallwood.
University Military School, Clanton.....	E. Y. McMorries.
Eighth District Agricultural School, Athens.....	M. K. Clements.
Sixth District Agricultural School, Hamilton.....	G. A. Holley.
Eutaw Male Academy, Eutaw.....	H. C. Horton.
Boy's High School, Anniston.....	H. C. Gunnels.
Taylor's School, Birmingham.....	W. P. Taylor.
University High School, Birmingham....	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga.....	A. G. Seay.
Gaylesville High School.....	John R. Ray.
Carrollton Academy.....	L. V. Rosser.
Ninth District Agricultural School, Blountsville.....	J. A. B. Lovett.
Gadsden High School.....	I. W. Hill.
Boyd High School, Ramer.....	B. H. Boyd.
Dadeville High School.....	J. D. Lane.
Prattville High School.....	A. W. Holstun.
Eufaula High School.....	F. L. McCoy.
Union Springs High School.....	J. M. Sanders.
Montgomery High School.....	C. L. Floyd.
Calera Academy.....	C. C. Slaton.
Southern Agricultural School, Abbeville.....	J. B. Murphy.
Barnes's School, Montgomery.....	E. R. Barnes.
Jackson Agricultural School.....	J. B. Murphy.
Spring Lake School.....	W. C. Griggs.
West Alabama Agricultural School, Hamilton.....	G. A. Holly.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects as named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the Faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Gunning's Outlines of Rhetoric); Scudder's Masterpieces of American Literature; Syle's From Milton to Tennyson.

For requirements in reading in literature see page 41.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Analytic Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translation of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

Botany will constitute a required part of the general course for young women who are candidates for a degree.

When admitted, upon complying with the conditions above stated, they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 11th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are fifteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the Freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students, nor to their parents.

The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified; and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may be qualified.

For an applicant to enter upon the study of Electrical and Mechanical Engineering as a special or irregular student, he must have studied Algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, english, mathematics, and be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examination in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science; Pharmacy; English, French, German, and Latin Languages; History, Political Economy; Mental and Moral Sciences.

These studies are arranged in regular courses so as to offer a liberal and practical education as a preparation for the active pursuits of life.

There are five degree courses for undergraduates, each leading to the degree of Bachelor of Science, (B. Sc.) and requiring four years for its completion.

- I. COURSE IN CHEMISTRY AND AGRICULTURE.
- II. COURSE IN CIVIL ENGINEERING.
- III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.
- IV. GENERAL COURSE.
- V. COURSE IN PHARMACY.

There are also three partial courses, each requiring two years for its completion:

- VI. TWO-YEAR COURSE IN AGRICULTURE.
- VII. TWO-YEAR COURSE IN MECHANIC ARTS.
- VIII. TWO-YEAR COURSE IN PHARMACY.

Course 1. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of the sciences that directly relate to civil engineering.

and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Courses VI. VII. VIII. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second *term* of the Senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st, and the thesis given to the professor by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the general regulations as other students, and pay the same fees, but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science*.—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.

2. *Master of Science in Pharmacy*.—Pharmacy and Chemistry.

3. *Master of Science in Civil Engineering*.—Civil Engineering, Mathematics, Analytical Mechanics.

4. *Master of Science in Electrical and Mechanical Engineering*.—Electrical Engineering, Mechanical Engineering.

5. *Master of Science in Mining Engineering*.—Students who have received the degree of B. Sc. in engineering, civil, or electrical and mechanical, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the applications of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments the professor of Chemistry, and the professor of Mineralogy and Geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the Faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer, Mining Engineer, or Pharmaceutical Chemist will be given two years after receiving the degree of Master of Science, provided the intervening time of two years has been spent in a responsible position in practical engineering work in that department in which he received the degree of Master of Science, or in practical pharmacy, and an approved thesis is submitted to the Faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

PHOTOGRAPHY.

During the session there will be given by Professor Mell a course of twelve lectures on photography. This course will be elective, and the instruction will be open to any student that may desire to learn how to make pictures. It will be necessary for each student to provide himself with an outfit that will cost from \$11.50 to \$16.00.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

- I. CHEMISTRY.
- II. CIVIL ENGINEERING, FIELD WORK, SURVEYING,
ETC.
- III. AGRICULTURE.
- IV. BOTANY.
- V. MINERALOGY.
- VI. BIOLOGY.
- VII. TECHNICAL DRAWING.
- VIII. MECHANIC ARTS.
- IX. PHYSICS.
- X. ELECTRICAL ENGINEERING.
- XI. MECHANICAL ENGINEERING.
- XII. PHYSIOLOGY AND VETERINARY SCIENCE.
- XIII. PHARMACY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I.—COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
3. Drawing.	3. Drawing.	2. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratory.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
4. Botany. (Laboratory).	4. Botany. (Laboratory).	4. Botany (Laboratory).
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
9. Chemical Laboratory.	9. Chemical Laboratory.	9. Chemical Laboratory.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Laboratory.	2. Clinical Laboratory.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature.	2. Political Economy (c).	2. Political Economy.
2. Mental Science (d).	2. Mental Science (d).	2. Mental Science (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
5. Biology.	5. Biology.	5. Biology.
2. Agricultural Chem't'y.	2. Agricultural Chem't'y.	2. Agricultural Chem't'y.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Laboratory.	9. Chemical Laboratory.	9. Chemical Laboratory.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Laboratory.	2. Clinical Laboratory.	2. Clinical Laboratory.

(a) Begins March 1st.

(c) Begins Feb. 15th.

(b) Also Practical Agriculture.

(d) French or German may be substituted.

II.—COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratory.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y, Mech. Arts (c).	6. Lab'y, Mech. Arts (c).	6. Lab. Mech. Arts (c).
1. Field Work, Engin'g.	1. Field Work, Engin'g.	1. Field Work, Engin'g.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature (d).	2. Political Economy (d).	2. Political Economy (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.

(a) Begins March 1st.

(b) For Agriculture may be substituted Physical Laboratory.

(c) Or Mineralogy.

(d) For Eng. Lit and Pol. Econ. may be substituted French or German.

5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Science.	1. Military Science.	1. Military Science.
4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.	4. Mech. Eng., Lab'y.
Field Work, Engin'g.	Field Work, Engin'g.	Field Work, Engin'g.

III.—COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

In freshman and sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English, French, or German.	3. English, French, or German.	3. English, French, or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
4. Electrical Engin'g.	4. Electrical Engin'g.	4. Electrical Engin'g.
3. Mech. Engineering.	3. Mech. Engineering.	3. Mech. Engineering.
4. Mechanical Drawing.	4. Mechanical Drawing.	4. Mechanical Drawing.
4. Electrical Lab'y.	4. Electrical Lab'y.	4. Electrical Lab'y.
6. Mech. Art Lab'y.	6. Mech. Art Lab'y.	6. Mech. Art Lab'y.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. Eng. Literature (a).	2. Political Econo'y (a).	2. Political Econo'y (a).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	3. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.
5. Electrical Engin'g.	5. Electrical Engin'g.	5. Electrical Engin'g.
5. Mech. Engineering.	5. Mech. Engineering.	5. Mech. Engineering.
2. Electrical Designing.	2. Electrical Designing.	2. Electrical Designing.
6. Electrical Lab'y.	6. Electrical Lab'y.	6. Electrical Lab'y.
4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.	4. Mech. Eng. Lab'y.
1. Military Science.	1. Military Science.	1. Military Science.

(a) French or German may be substituted.

IV.—GENERAL COURSE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
3. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
3. Mathematics.	3. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Laboratory.	2. Chemical Laboratory.	2. Chemical Laboratory.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Laboratory Work (b).	6. Laboratory Work (b).	6. Laboratory Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English.	2. Political Economy (c).	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Laboratory Work (b).	6. Laboratory Work (b).	6. Laboratory Work (b).

(a) Begins March 1st.

(b) The student may elect the laboratory of any department for which he may be qualified.

(c) Begins February 15th.

V.—COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week..

FRESHMAN CLASS.

First Term.

- 3. English.
- 2. History.
- 5. Latin.
- 5. Mathematics.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 3. Military Drill.

Second Term.

- 2. English.
- 2. History.
- 5. Latin.
- 5. Mathematics.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 3. Military Drill.

Third Term.

- 3. English.
- 3. History.
- 3. Latin.
- 5. Mathematics.
- 3. Drawing.
- 2. Agriculture.
- 6. Mechanic Arts.
- 3. Military Drill.

SOPHOMORE CLASS.

First Term.

- 5. Latin.
- 3. History.
- 5. Mathematics.
- 3. General Chemistry.
- 2. Physiology.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 2. Chemical Laboratory.
- 3. Military Drill.

Second Term.

- 5. Latin.
- 3. History.
- 5. Mathematics.
- 3. General Chemistry.
- 2. Physiology.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 2. Chemical Laboratory.
- 3. Military Drill.

Third Term.

- 5. Latin.
- 3. Botany (a).
- 5. Mathematics.
- 3. General Chemistry.
- 2. Physiology.
- 3. Drawing.
- 6. Mechanic Art Lab'y.
- 2. Chemical Laboratory.
- 3. Military Drill.

JUNIOR CLASS.

First Term.

- 2. Physics.
- 6. Chemical Laboratory.
- 4. Botanical Laboratory.
- 3. English (b).
- 3. Pharmacy.
- 9. Pharmaceutical Lab'y.
- 4. Pharmacognosy.
- 1. Military Tactics.
- 3. Military Drill.

Second Term.

- 3. Physics.
- 6. Chemical Laboratory.
- 4. Botanical Laboratory.
- 3. English (b).
- 3. Pharmacy.
- 9. Pharmaceutical Lab'y.
- 4. Pharmacognosy.
- 1. Military Tactics.
- 3. Military Drill.

Third Term.

- 3. Physics.
- 6. Chemical Laboratory.
- 4. Botanical Laboratory.
- 3. English (b).
- 3. Pharmacy.
- 9. Pharmaceutical Lab'y.
- 4. Pharmacognosy.
- 1. Military Tactics.
- 3. Military Drill.

SENIOR CLASS.

First Term.

- 5. Biology.
- 6. Chemical Laboratory.
- 5. Pharmacy.
- 8. Pharmaceutical Lab'y.
- 5. Pharmacognosy.
- 2. Military Science.
- 3. Materia Medica.

Second Term.

- 5. Biology.
- 6. Chemical Laboratory.
- 5. Pharmacy.
- 8. Pharmaceutical Lab'y.
- 5. Pharmacognosy.
- 1. Military Science.
- 3. Materia Medica.

Third Term.

- 3. Biology.
- 6. Toxicology.
- 5. Pharmacy.
- 8. Pharmaceutical Lab'y.
- 5. Pharmacognosy.
- 1. Military Science.
- 3. Bacteriology.

(a) Begins March 1st.

(b) French or German may be substituted.

VI.—TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.	12. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

VII.—TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.
2. Practical Agriculture.	2. Practical Agriculture.	2. Practical Agriculture.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
4. Agriculture.	4. Agriculture.	4. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
12. Practical Agriculture.	12. Practical Agriculture.	12. Practical Agriculture.
3. Military Drill.	3. Military Drill.	3. Military Drill.

VIII.—TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany. •
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mech. Art Lab'y. (a)	6. Mech. Art Lab'y. (a)	6. Mech. Art Lab'y. (a)
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
8. Pharmaceutical Lab.	8. Pharmaceutical Lab.	8. Pharmaceutical Lab.
6. Chemical Lab'y.	6. Chemical Lab'y.	7. Toxicology.
3. Materia Medica.	3. Materia Medica.	3. Bacteriology.
6. Botanical Lab'y.	6. Botanical Lab'y.	6. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) or Physical Laboratory.

SCHEDULE OF EXERCISES.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
I.	4. Algebra. 3. Latin.	3. Agriculture. 4. Geometry. 3. Latin. 2. German.	4. Algebra. 3. Latin.	4. Geometry. 3. Latin. 2. German.	4. Algebra. 3. Latin.	Exercises in Elocution.
8-9	1 and 2 Drawing. 1. Elec. Engineer'g 2. Mec. Engineer'g 1. Biology. 1. German.	1 and 2 Drawing. 1. Vet. Science. 1. Elec. Engineer'g 1. Mental Science. 1. German. 2. Mech'l Eng.	1 and 2 Drawing. 1. Vet. Science. 1. Elec. Engineer'g 1. German. 2. Mech'l Eng.	1 and 2 Drawing. 2. Botany. 1. Mental Science. 1. Elec. Engineer'g 2. Mech'l Eng.	1 and 2 Drawing. 1. Veterinary Sci. 1. Elec. Engineer'g 1. German.	
II.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 1. Calculus. 1. Biology. 2. Elec. Engineer'g	4. History. 3. Physiology. 2. Civ. Engineer'g. 2. Botany. 2. Elec. Engineer'g 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 2. Calculus. 2. Vet. Science. 2. Elec. Engineer'g	4. History. 3. Agriculture. 2. Civ. Engineer'g. 2. Botany. 2. Elec. Engineer'g 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 2. Mech'l Drawing 1. Calculus. 2. Vet. Science.	
9-10						Military Drill.
III.	3. English. 2. Physics.	1. Machine Desig. 3. History (1, 2). 3. Botany (2, 3). 1. Biology.	3. English.	1. Machine Desig. 3. History (1, 2). 3. Botany (2, 3). 1. Civ. Engineer'g. 4. English. 1. Mech. Engin'r'g 2. French. *	3. English. 2. Physics. *	Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
10-11	1. Civ. Engineer'g. 1. Biology. 1. Latin. 1. Mec. Engineer'g	1. Civ. Engineer'g 4. English. 1. Mec. Engineer'g 2. French. 2. Mec. Drawing.	1. Latin. 1. Civ. Engineer'g 1. Biology. 1. Mech. Engin'r'g	1. Civ. Engineer'g. 1. Mech. Engin'r'g 2. French. *	1. Civ. Engineer'g. 4. History (3). 1. Mech. Engin'r'g	

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
IV.	4. Physics (1, 2).	4. Latin. 3. Drawing.	4. Physics (1, 2). 4. Latin (3). 3. History (1, 2). 2. Botany (2, 3). 2. Mathematics. 2. Chemistry. 1. English (1, 2). 1. Political Economy (2, 3). 4. Mechanic Arts.	4. Latin. 2. Agriculture. 2. Mathematics. 1. Chemistry. 3. Physiology. 1. French. 1. Physics.	4. Physics (1, 2). 4. Agriculture (3). 4. Latin (1, 2). 3. Drawing. 2. Mathematics. 2. Chemistry. 1. Military Science 4. Mechanic Arts.	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
V.	4. Drawing. 3. Mathematics. 2. English. 4. Mechanic Arts. 1. Elec. Design'g. 1. French.	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts. 2. German. 1. Elec. Designing 2. Anal. Chemistry	3. Mathematics. 2. English. 1. Geology.	4. Drawing. 3. Mathematics. 4. Mechanic Arts. 1. Elec. Designing. 2. Military Tactics	3. Mechanic Arts. Chemical Laboratory. Electrical Laboratory. Physical Laboratory. Veterinary Clinics. Biological Laboratory. Field Engineering.
VI, VII 2-4	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Laboratory. Chemistry. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Elec. Lab. Work. Physical Laboratory.	3. Mechanic Arts. 2. Mineralogical Laboratory. Military Drill (*). 1. Mech. Laboratory. Elec. Lab'y Work. 1 and 2 History.	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Laboratory. Chem. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Elec. Lab'y Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Laboratory.	3. Mechanic Arts. 2. Mineralogical Laboratory. Military Drill (*). 1. Mech. Laboratory. Elec. Lab'y Work. 1 and 2 History.	4. Mechanic Arts. 3. Field Work Agr. 2. French. 1 & 2 Lab. Chem. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Ex'cis. in Elocut'n Elec. Lab. Work. Physical Laboratory.	

Chapel services daily at 7:45 a. m.

Numbers prefixed denote classes—1 denotes senior, 2 junior, etc. Numbers affixed—(1), (2), (3), denote terms.

*From 4:30 to 5:30 p. m.

DEPARTMENTS OF INSTRUCTION.

PHYSICS AND ASTRONOMY.

PROFESSOR DUNSTAN.

ASSISTANT PROFESSOR KYSER.

ASSISTANT JEPSON.

The instruction is given by the recitation from text books and lectures, illustrated by experiments and stereopticon projections.

The following courses are given in this department :

FRESHMAN COURSE.

First and Second Terms. (Three recitations per week). Elementary general physics.

TEXT-BOOK.

Cooley's Physics.

SOPHOMORE LABORATORY COURSE.

This is a laboratory course to follow the Freshman Course in general physics, and is designed, principally, for students who intend following engineering courses.

First Term. (Six hours per week.) (a) Simple measurements and design of measuring instruments. (b) Elementary graphical statics. (c) Forces, moments and work. (d) Simple machines and friction (determining mechanical advantages, loss, efficiency, law, etc).

Second Term. (Six hours per week.) (e) Pendulum and gravity. (f) Elasticity. (g) Liquids. (h) Density and specific gravity.

Third Term. (Six hours per week.) (i) Gases. (j) Heat. (k) Sound. (l) Light.

RECORD-BOOK.

About 100 experiments are selected and are quantitative in nature. Results of experiments are to be entered, in tabular form, together with diagrams, deductions, etc., in a laboratory record book which contains a synopsis of the experiment and deductive questions. At the close of each week this book is criticised and graded according to its accuracy and neatness.

REFERENCE-BOOKS.

Ames & Bliss' Laboratory Manual, Stewart & Gee's Practical Physics, Nichol's Laboratory Manual, Magnus' Mechanics, Glazebrook's Mechanics and Statics.

JUNIOR COURSE.

This is a more advanced course in general physics required of all candidates for a degree.

First Term. (Three recitations per week.) Mechanics of solids, liquids and gases.

Second Term. (Three recitations per week.) Static and dynamic electricity and magnetism.

Third Term. (Three recitations per week.) Sound and heat.

TEXT-BOOK.

Ames' Theory of Physics.

SENIOR COURSE.

First Term. (Two recitations per week.) Light and optical instruments.

Second and Third Terms. (Two recitations per week.) Astronomy.

TEXT-BOOKS.

Ames' Theory of Physics, Young's Astronomy.

POST-GRADUATE COURSE.

Instruction will be given in either analytical mechanics, or selected portions of mathematical physics.

Prerequisite.—Differential and integral calculus. The department is well equipped with apparatus for illustrating the lectures.

MATHEMATICS.

PROFESSOR SMITH.

ASSOCIATE PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Algebra completed, solid geometry, plane and spherical trigonometry, surveying, mensuration.

JUNIOR CLASS. Analytical geometry, descriptive geometry.

SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be attained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in farm, town and government land surveying, dividing land, mapping, plotting and computing areas, etc.; also in the theory, adjustment and use of instruments.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

Mensuration includes an extended course in measurements of heights and distances, plane, rectilinear, and curvilinear figures, surfaces and volumes.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses. Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of the principles and formulas.



BOTANICAL LABORATORY.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry, Davie's Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

GEOLOGY AND BOTANY.

PROFESSOR MELL.

Geology.—This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

There is also a course of advanced work in practical geology for post-graduate students. This subject is pursued by applicants for the degrees of master of science and mining engineer.

The junior class in civil engineering studies mineralogy through the entire season. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical constants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

Botany.—The students of the sophomore class begin the study of botany the first of March, and continue it through the remainder of the session. Careful experiments are conducted in the lecture room explaining the formation and germination of seed, the growth into the

mature plant, and the various functions performed by the plant in its development. Each student is required to keep careful notes illustrated with drawings of the various organs of the plant under examination. A limited amount of work is done in classification and nomenclature.

In the junior class, in the course of chemistry and agriculture, two terms are devoted to systematic and structural botany, and to advanced laboratory work with the microscope in the preparations of specimens showing plant structure; this work is sufficient to familiarize the students with the methods of plant building and cellular organization. Excellent microscopes of the most improved patterns, and all necessary chemicals and apparatus for preparing and mounting vegetable tissues, are used by the students.

The third term is devoted to the study of the physiology of plants in order to understand the functions of the various organs after completion of the work in the histological laboratory.

FACILITIES FOR WORK.

Geology.—The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals of teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern complete with oil, oxy-hydrogen and automatic electric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals; and models of crystals.

Botany.—The facilities for teaching this subject are as follows: Auzoux's clastic models of seeds and flowers; a large collection of pressed plants of Alabama and other sections mounted and catalogued. There is also a laboratory for practical work in botany equipped with slate-topped tables for twenty students; dissecting and compound microscopes of Zeiss, Leitz, and Bausch & Lomb; projection microscopic apparatus; microtomes by King and Bausch

& Lomb; all the necessary glassware and smaller dissecting instruments required in a well equipped laboratory. The Zeiss compound microscope used by the professor for experiment work in connection with the station is supplied with Abbe's illuminating apparatus, slide changers, Abbe's camera lucida, polarizers, apochromatic objectives (16mm, 8 mm, 4mm, and homogeneous immersion), oculars (2, 3, 8, 12, 18), and photographic eye-piece with micrometer. This laboratory is well lighted with gas and electricity and with a good exposure for ample sunlight.

In connection with the department there is a photographic dark-room and an excellent photographic outfit, consisting of cameras varying in size from 4x5 to 6½x8½ inches; Bausch & Lomb's professional photo-micro camera extending to eight feet; Zeiss's anastigmat photographic lens, 6½x8½, fitted with Bausch & Lomb's diaphragm shutter and Zeiss's wide angle lens, 6½x8½, all mounted in aluminum; Clark's lens fitted with diaphragm shutter; Darlot lens, 4x5; the accessory apparatus and chemicals required for first-class work in photography.

The students have access to the botanical garden where experiments in grass culture and many other plants of interest to the farmer are conducted by the professor.

TEXT-BOOKS.

LeConte's Geology, Tarr's Economic Geology, Dana's Mineralogy, Crosby's Tables for Determining Minerals, Bergen's Botany, Mell's Laboratory Guide, and notes of lectures.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT MARTIN.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class—Simple, compound, reversed and parabolical curves, turnouts and crossings, leveling, gradients, setting slope stakes, etc.

Special attention will be paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, and location, and construction of railroads; navigable, irrigation and drainage canals; river and sea-coast improvements.

Theory and practice are combined in both classes.

TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear and free-hand drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class

the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue-prints. The senior class makes topographical drawings and drawings of machines, roofs, bridges, etc., to different scales, and blue prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class.—Kitchener's Geometrical Note Book, Thorne's Junior Course in Mechanical Drawing, and Davidson's Model Drawing.

Sophomore Class.—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class.—Davidson's Building Construction, Davidson's Drawing for Mechanics and Engineers, plates belonging to the college, Keuffel & Esser's Alphabet.

Senior Class.—French, English and American plates belonging to the College, Keuffel & Esser's Alphabet.

ENGLISH AND POLITICAL ECONOMY.

PROFESSOR THACH.

PROFESSOR WIATT.

ASSISTANT SCROGGS.

ASSISTANT HAROLD.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in Eng-

lish is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course of English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading English authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 41.

For requirements as to thesis and as to proficiency in English for certificates and degrees see pages 49 and 109.

Declamation and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class.—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

G. R. Carpenter's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class.—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class.—Two hours a week, first term. Principles of Criticism, Shakepeare's Julius Cæsar, Hamlet, etc., Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*:—For the freshman class, *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science.—Psychology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions.

Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science.*

Political Economy.—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics.*

A *Post-graduate course* has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden*—*Poetical Works* (Christie); *Essay of Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); *Saintsbury's Life of Dryden.*

Pope—*Poetical Works* (Ward); *Satires* (Pattison); *Stephen's Life of Pope*, Gosse's *From Shakespeare to Pope and 18th Century of Economics.*

(3) *English Literature of the Eighteenth Century*; Addison, Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

CHEMISTRY.

ACTING PROFESSOR MURRILL.

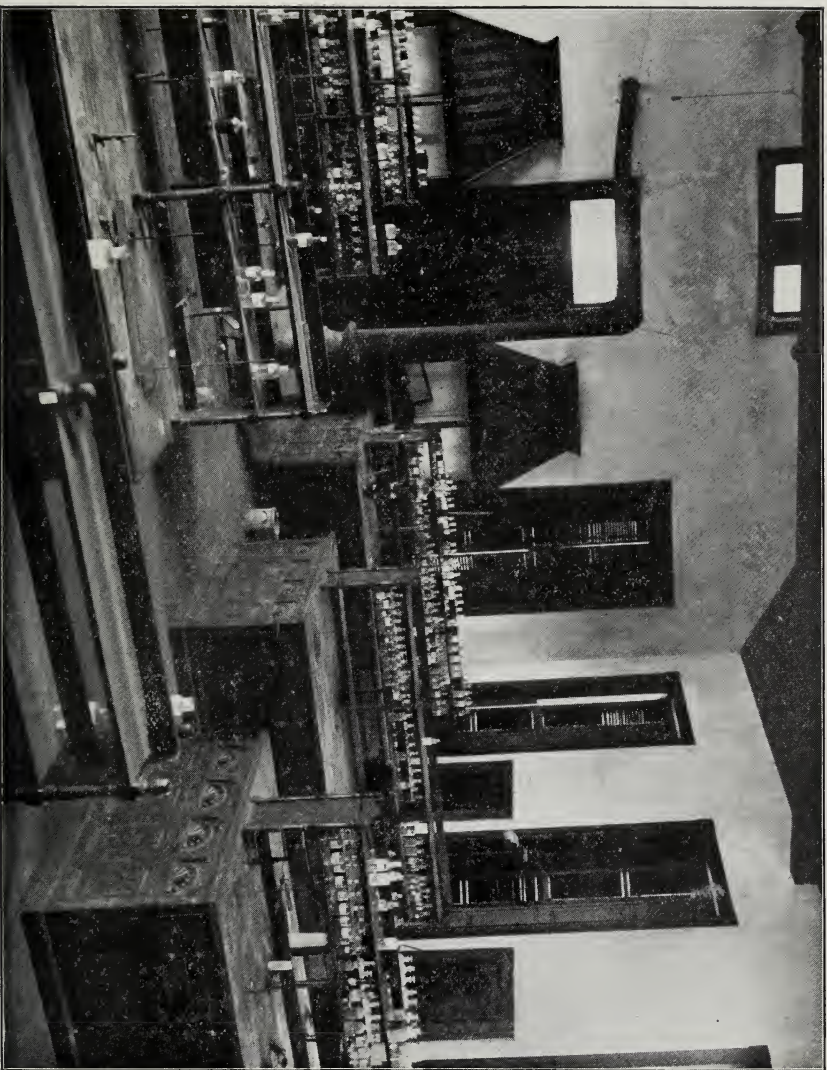
INSTRUCTOR HARE.

INSTRUCTOR HOUGHTON.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial chemistry.
3. A course of lectures in metallurgy.
4. A course of lectures in agricultural chemistry.
5. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a



CHEMICAL LABORATORY (INTERIOR.)

series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

REFERENCE BOOKS.

Wagner's Chemical Technology, Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watt's Dictionary, Richardson and Watt's Chemical Technology, Percy's Metallurgy, Sadtler's Industrial Organic Chemistry.

3. Course in metallurgy: This consists of lectures and recitations (two per week, during first term) upon the more important metals, such as iron and steel, copper, lead, tin, silver, mercury, zinc, etc. It includes a

discussion of the physical and chemical properties of the metals and of their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

4. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson's and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations-

5. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the junior year the work embraces the practical operations of chemical synthesis and analysis and includes the preparation of the non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coal, iron ore, iron and steel, sugars and sugar products, feed stuffs, minerals, mineral waters,

etc., being varied somewhat to suit the individual object of the student.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the method of prosecuting chemical researches. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common reagents and apparatus used in qualitative or quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the analytical work above described it is designed to give during the session a short course in electro-plating. Practical instruction in the electro-deposition of nickel, silver, gold, etc., upon other metals will be given, and, in addition, the application of electrolysis to chemical analysis will be studied both theoretically and practically.

TEXT-BOOKS.

In qualitative analysis.—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis.—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, four short-arm Becker balances of latest pattern, Bunsen spectroscope, Abbe refractometer and other instruments for delicate and accurate work.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT BOYD.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

In the freshman class, the subjects studied are the United States, Alabama, and England. The first term (two hours per week) is devoted to the history and government of the United States; the second term (two hours per week) to Alabama, and the third term (three hours per week) to the history of England.

In the sophomore class (three hours per week until March) the subject studied is general European history.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given those students of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent but careful opinions based on the original sources of information.

as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially Alabama history.

The method of work is as follows: Informal lectures are given on important and suggestive points, as: The causes of the Revolution; the Constitutional Convention; the War of 1812; the Missouri Compromise; the Monroe Doctrine; Texas and Mexico; the Compromise of 1850; the Kansas Struggle; the Dred Scott Decision; Secession. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below:

TEXT-BOOKS.

Freshman Class.—Cooper, Estill & Lemmon's History of the United States, Brown's History of Alabama, Montgomery's English History.

Sophomore Class.—Myers's General History.

Junior and Senior Classes.—Moore's American Congress.

Graduate Course.—Wilson's Division and Reunion, selected parts of Stephen's Constitutional History, and of Rhodes's History of the United States, Fiske's Critical Period, Lodge's Hamilton, Morse's Jefferson, Schurz's Clay, Lodge's Webster, Sumner's Andrew Jackson.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their Eng-

lish derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization, both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation. English passages based on the author read or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

For the benefit of students who do not study the Latin language a series of popular lectures will be given upon the great Latin writers. Especial emphasis is laid on proficiency in writing Latin exercises and in translating Latin prose at sight.

TEXT-BOOKS.

Freshman Class.—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent.

Sophomore Class.—Cicero, Allen & Greenough's Grammar Bennett's Latin Composition.

Junior Class.—Virgil, Horace, Allen & Greenough's Grammar, Exercises, Guerber's Mythology, Preston & Dodge's Private Life of the Romans.

Senior Class.—Livy, Tacitus, Wilkins's Latin Literature, Exercises, History of Rome.

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German

at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German.

French—First Year. Three recitations a week. During this year the principal object is to acquire a knowledge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice per week, from 4 to 5 p. m. during the *first term*, and the *third term*, for exercises in conversation in French and in German.

TEXT-BOOKS.

FRENCH—First Year: Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year.—Feuillet's *Le Roman d'un Jeune Homme Pauvre*, Racine's *Esther*, Corneille's *Le Menteur*, Molière's *Le Bourgeois Gentilhomme*, selected plays, Whitney's Grammar, original exercises.

GERMAN—First Year: Joynes-Meissner's Grammar and Reader.

Second Year: *Der Bibliothekar*, *Wilhelm Tell*, Whitney's Grammar and Exercises, selected plays, original exercises.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT JEPSON.

JUNIOR YEAR.

The students in this course study English, French or German, Physics, Mathematics, etc., as prescribed for the course of Civil Engineering in the junior and senior years and in addition thereto prosecute their studies in electricity and mechanics as herein prescribed.

Instruction is given by lectures and recitations.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with especial reference to their industrial applications. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

Ayrton's Practical Electricity. Houston and Kennelly's Incandescent and Arc Lighting. Cushing's Standard Wiring.



ELECTRICAL BUILDING.

LABORATORY WORK.—Four hours per week are given to work in the laboratory. This includes management of batteries, construction of instruments, electro-plating, electrical measurements, verification of the principles upon which the measurements of current, electromotive force and resistance are based, etc.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Thompson. Alternating Currents, Franklin and Williamson. Standard Polyphase Apparatus, Oudin.

LABORATORY WORK.—Six hours per week are devoted to practical laboratory work, electrical measurements, relation of electric currents to heat and mechanical work, care and tests of dynamo and motors, calibration of voltmeters, ammeters and watt-meters, electric lighting, management and care of accumulators, energy consumed in lamps, adjustment and care of arc lamps, proper wiring of buildings, the application of electricity to street railways, magnetic measurements, tests of transformers and alternating motors, etc.

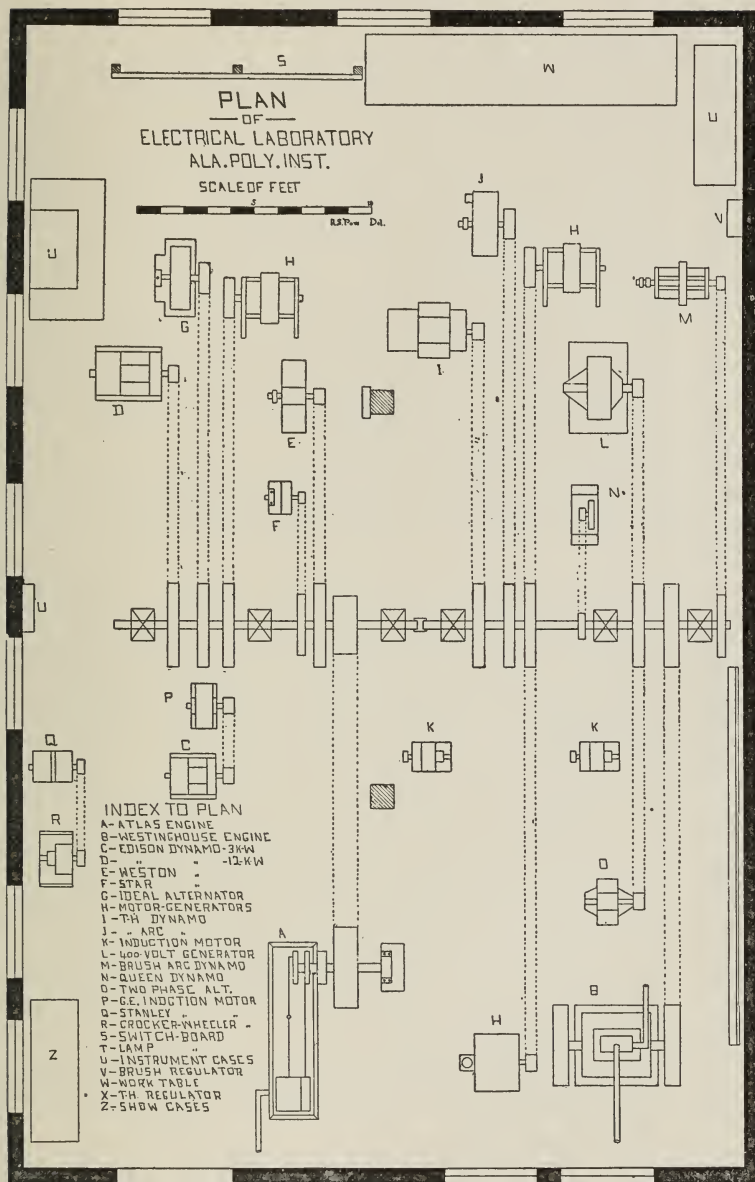
DRAWING AND CONSTRUCTION.—Two hours per week in the senior year are devoted to the design and construction of electrical machinery.

Encouragement is offered to advanced students for conducting original investigations, and opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students in connection with their experimental work.

In addition to the usual laboratory work, senior students spend a portion of their time in the boiler room, learning the management and care of the steam plant, and in turn take charge of the lighting plant, thus becoming familiar with running the engines and dynamos.

POST GRADUATE COURSE.—To graduate students more advanced courses in the theory and applications of alternating currents and alternating current machinery are given. The courses will be varied slightly from year to year to suit the needs of those taking the course.

In connection with this work suitable laboratory work will be given.



EQUIPMENT.

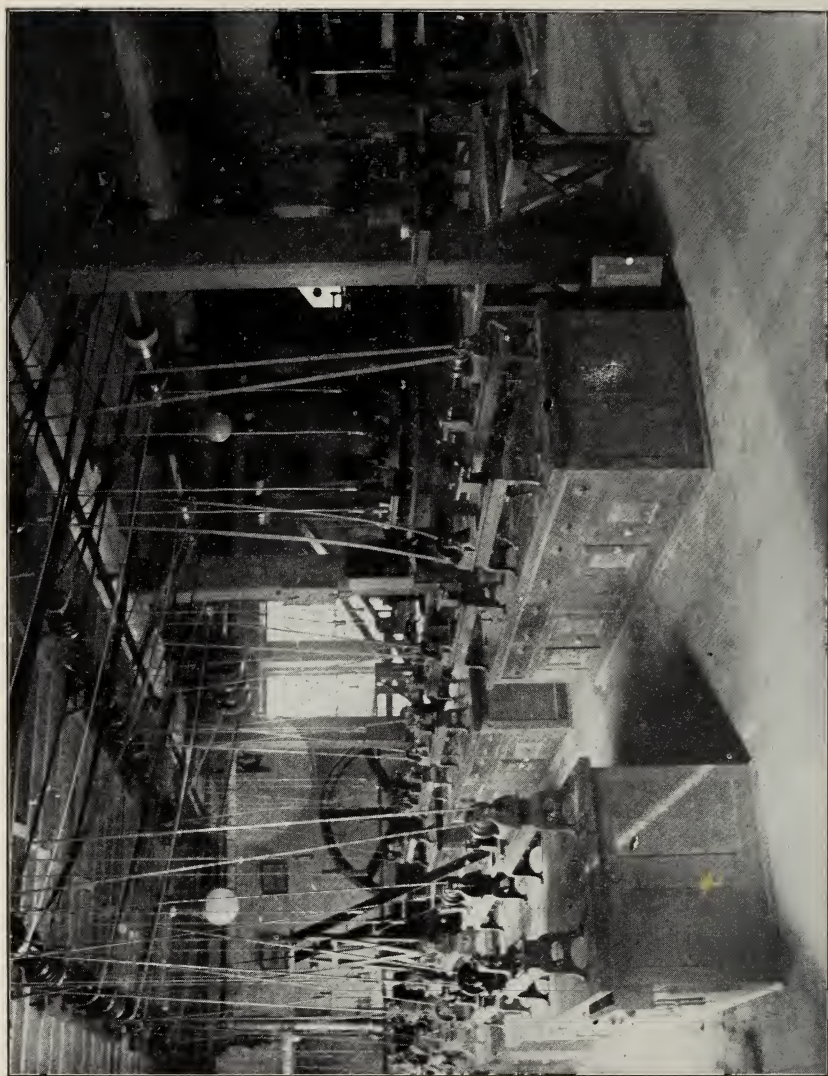
The laboratory is well supplied with batteries, storage and primary, telephones, plating apparatus and similar minor apparatus. Among the instruments of precision may be noted Kelvin ampere balances, graded current and potential galvanometers alternating and direct current ammeters and voltmeters of various ranges, from Weston, Queen, Jewell, Hartmann & Braun, Despretz, Fein, General Electric Company and other domestic and foreign makers. There are also direct reading and recording watt meters, dynamometers reading from .0001 ampere to 100 amperes, a number of resistance boxes and bridges, condensers, keys, galvanometers of various types, magnetic testing apparatus, portable and fixed, photometers, high potential testing apparatus, portable testing set, cradle dynamometer, a special instrument for comparing inductances, self and mutual, and capacities.

This department, being provided with Lord Kelvin's standard electrical instruments for exact measurements, will calibrate free of expense, any ammeter or voltmeter that may be sent to the College.

In the dynamo room the following are installed: One Weston 150 volt, 20 ampere dynamo, with rheostat; one Brush 6 arc light dynamo, with regulator and six lamps; one Ideal 5 kilo-watt three phase alternator; one Thompson-Houston 9 arc light dynamo with lamps; one Edison compound wound 12 kilo-watt generator; a Thompson-Houston 110 volt, 75 ampere generator; two street car motors used as either direct or alternating current generators or motors; two polyphase induction motors; one General Electric 5 horse-power induction motor, mounted on cradle dynamometer; General Electric 20 horse-power motor; one Stanley induction motor with condensers; Edison $3\frac{1}{2}$ kilo-watt generator; a Crocker-Wheeler one horse-power motor and rheostat, and one bi-phase alternator, and 500 volt generator, made by special students, furnish current to laboratory and light up the different buildings. A lamp board with a capacity of 210 lamps has been installed and is used for testing purposes.

The dynamos occupy a separate brick building 50x32 feet, and are operated by a 35-horse power Westinghouse vertical engine, and a 25-horse power Atlas engine.

An electric motor, made by students, supplied with current from a generator at a distance of 3,000 feet, operates a gin, gin press,



WOOD ROOM.

ensilage cutter and feed cutter at the experiment station farm. This motor not only subserves a useful purpose in the operation of these machines, but is an excellent illustration of the electric transmission of power.

MECHANICAL ENGINEERING AND MECHANIC ARTS.

PROFESSOR WILMORE.

ASSOCIATE PROFESSOR CRENSHAW.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR TRAMMELL.

ASSISTANT HILL.

The course in manual training covers three years, as follows: First year, wood-working—carpentry and turning; second year, pattern making and foundry and forge work—molding, casting and smithing; third year, machine shop—chipping and filing and machine work in metals.

This course is obligatory upon the students of the two lower classes. For satisfactory reasons a student may be excused from this laboratory work by the Faculty.

The full work of each class is six hours per week, in three exercises of two hours each.

The power for running the apparatus in this department is derived from a twenty-five horse-power Harris-Corliss automatic engine. A steam pump and a heater for the feed-water form a part of the steam apparatus. For the steam plant a substantial brick boiler-house and chimney have been erected, and a 100-horse power Heine boiler installed.

The equipment for the wood-working shops comprise the following: 30 wood-working benches, each with complete set of carpenter's tools; 24 turning-lathes 10-inch swing each with complete set of tools; 1 double circular saw; 1 band saw; 1 board-planing

machine; 1 jointer; 1 pattern-maker's lathe 16-inch swing; 1 36-inch grindstone. The tool room is supplied with a variety of extra hand tools for special work and in addition to the regular carpenters' tools in the benches each student is supplied with a set of chisels and plane irons with a locker to keep them in and is held responsible for their care and condition.

The equipment for the foundry consists of molding benches for 18 students, each supplied with a complete set of molder's tools; a 23-inch Colliau cupola, with all modern improvements, capable of melting 2,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucible tongs, etc. Also a full supply of ladles, large and small molding flasks, a foundry crane, special tools, etc.

The forge shop equipment consists of 24 down draft forges of new pattern each with a set of Smith's tools, anvil etc. The blast for all the forges is supplied with a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a 60-inch underground exhaust blower draws the smoke from the fires into the smoke flues and forces it out through the chimney.

The machine department occupies a brick building 30x50 feet, and is equipped with eight engine-lathes (screw-cutting 14-inch swing, six foot bed; 2 engine lathes, 16 inch swing (one with taper attachment); 1 engine lathe, 18-inch swing, with compound rest and taper attachment; 1 speed-lathe, 10-inch swing; 1 20-inch drill press (power feed); 1 10-inch sensitive drill; 1 15-inch shaper; 1 22-inch x22-inchx5 feet planer; 1 universal milling machine, 1 corundum tool grinder (14-inch wheel); 1 bench grinder; 1 post drill press; 1 Brown and Sharpe universal grinding machine; 1 power hack saw. A part of the room is set apart for vise work, chipping and filing; and benches for twelve students are provided, each with vise and set of files, chisels, hammers, etc. In the tool room is to be found a good supply of machinists' tools for general shop use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting and measuring tools, and special appliances for machine work, with machine for grinding twist drills.

The nature of the work in each department is as follows:

FIRST YEAR.

I. A course of carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work

with plane, saw, chisel, different kinds of joints, timber splices, cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet making, light cabinet work, examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through the third term. The lessons comprise nature and use of lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and check work, hollow and spherical turning.

SECOND YEAR.

I. Course in forge work in iron and steel, occupying the first term. The lessons are arranged so that the students in making the series of objects, become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding, by various methods tool-forging, tempering, hardening, etc.

II. A course in pattern-making covering the second term. The work includes a variety of examples of whole and split patterns, core work, etc., giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in greensand in two part flasks; core work is also given and some three part flask and some dry sand work is introduced.

The same patterns which have been previously made by students are used besides special patterns for occasional larger or more complicated work. Instruction and practice is given in working the cupola.

In connection with this second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

THIRD YEAR.

I. Course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron; chipping to line on flat and curved surfaces, key-seating, etc., filing and finishing to

line (straight and curved), surface filing and finishing, fitting, slotting, dovetail work, sawing, pin and screw filing, surface finishing with scraper, etc.

II. Machine work occupying the remainder of the year. The work includes cast and wrought iron; steel and brass; turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling—both in lathe and drill press—reaming, boring, screw-cutting in lathe and with taps and dies, planing, slotting, etc., with planer and shaper, milling various forms with the milling machine, including exercises in making taps, reamers, etc., fitting, grinding, polishing, etc.

Lectures are also given during the year on various subjects connected with machine work in metals; such as forms, construction and use of the various machines, cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given the classes.

All of the work is done from blue prints made by the class in drawing. In the construction work the student is given a blue print and the material for a certain part. He is then encouraged to study the work and plan the best method of doing it.

MECHANICAL ENGINEERING.

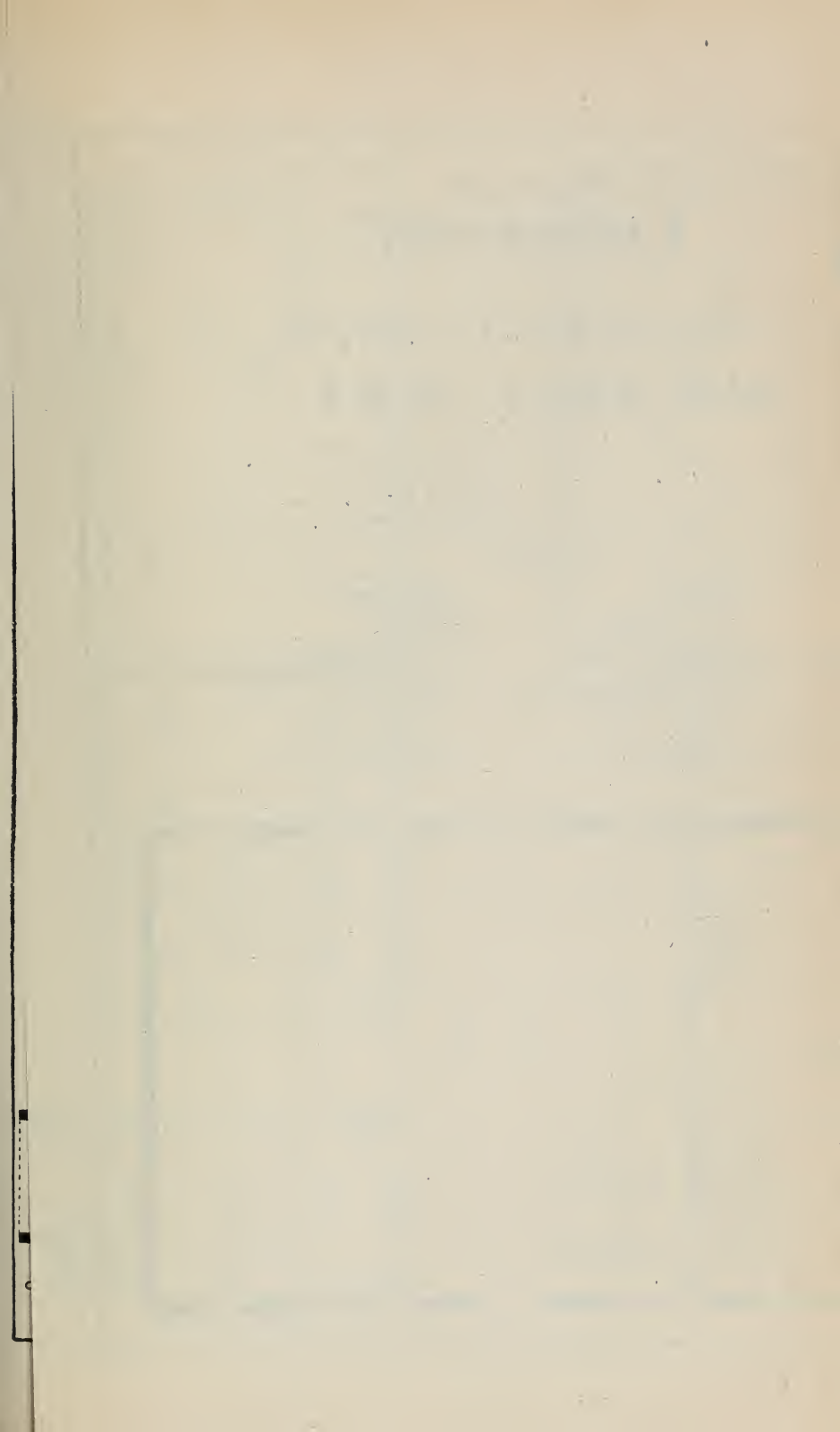
JUNIOR YEAR.

Elementary Mechanics.—Three hours a week for the first term are devoted to this subject. The fundamental laws underlying all mechanical science and the mechanics of liquids, gases and vapors are studied.

Kinematics.—Three recitations per week during the second and third terms are devoted to this subject.

Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear-wheels, belts, cams, screws and link-work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motions as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

Mechanical Drawing.—During the first term the students make drawing to exact scale, of some of the simpler machines. The student takes his own measurements and makes his own sketches from which to make the finished drawing.



PLAN OF LABORATORY ~ OF ~ MECHANIC ARTS, ALA. POLY. INST.

AUBURN, ALA.

1885

SCALE OF FEET

0 10 20

INDEX.

GENERAL

A LINE SHAFT
B CLOSETS
C BENCHES

WOOD ROOM

PATTERN LATHE
CIRCULAR SAW
BAND SAW
JOINTER
PLANE
CHAIN STONE
RIGHT ANGLE COUPLING
25 HP HARRIS-COALISS ENGINE.

BOILER ROOM

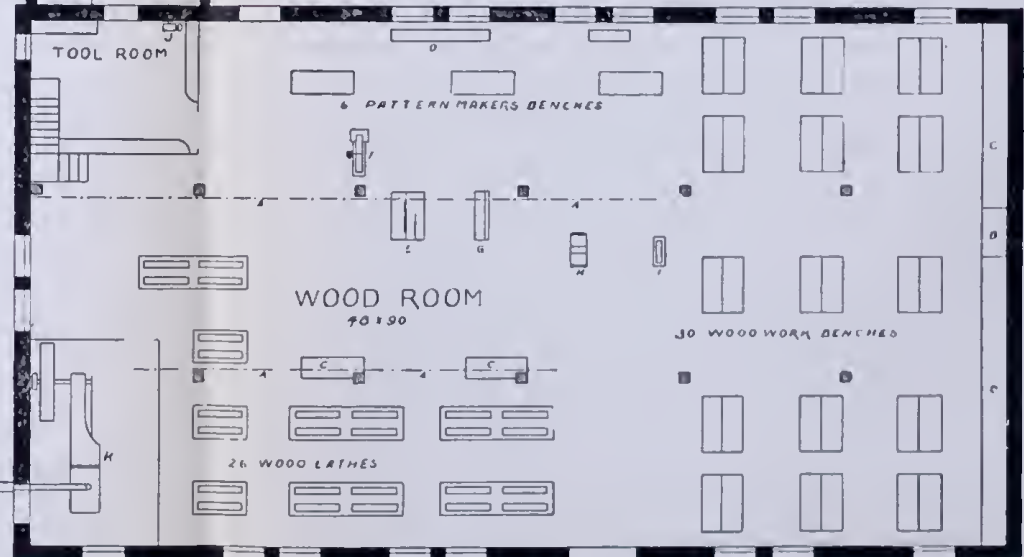
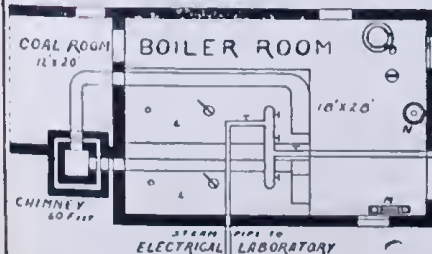
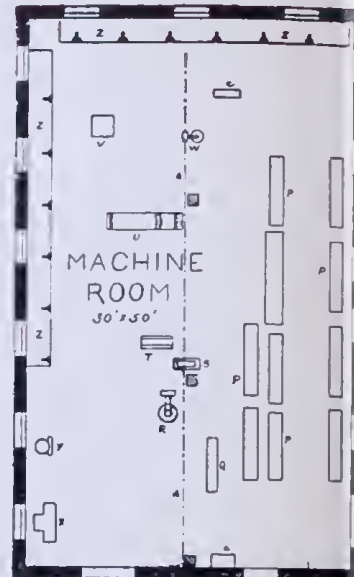
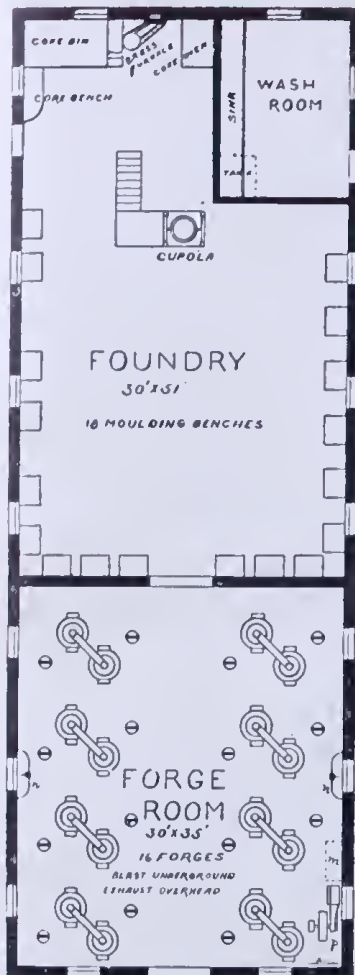
L 2 JOH P BOILERS
M PUMP
N FIELD WATER HEATER
O HAND FORGE

MACHINE ROOM

P ENGINE LATHES (10)
Q SPEED LATHE
R DRILL PRESS
S TOOL GRINDER
T SHAPER
U PLANE
V MILLING MACHINE
W SENSITIVE DRILL
X UNIVERSAL GRINDING MACHINE
Y CUTTER GRINDER
Z CHIPPING & FILING BENCHES
A BENCH GRINDER
C POWER HACK SAW.

FORGE ROOM

L BLOWERS
M BENCHES
N 5" SLIDE VALVE ENGINE
O MADE BY STUDENTS



TEXT-BOOKS.

Wood's Elementary Mechanics, Barr's Kinematics of Machinery.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term five hours per week is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturer's catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Steam Engine.—The second term five hours per week will be given to the study of the theory and efficiency of the steam engine, with discussions of the effects of condensation in cylinder, action of fly wheels, effects of jacketing, etc. Simple and compound engines, various valves and cut-off motions, and the principal types of modern engines are studied. Special attention is given to the steam engine indicator.

Applied Mechanics.—The third term, four hours per week is given to work in this subject. Applications of the mechanical principles previously learned, are made to the solution of practical problems. Considerable attention is given to graphical methods, these being used in preference to the analytical when possible.

One hour a week for the third term is given to a series of lectures on mechanical refrigeration and gas and gasoline engines.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book adopted, but variations are made and additional exercises given when found desirable. The strength and proportion of joints, fastenings and machine details are studied. Problems are given, the dimensions worked out and the drawings made. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing-room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions.

Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales and balances; calorimeter tests with barrel, separating and throttling calorimeters; boiler test with determination of the quality of steam and analysis of flue gas; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; efficiency and duty of a steam pump; tensional, compressional and transverse tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength and the modulus of elasticity.

This class usually makes a test of some electric plant or mill some time in the last term.

The apparatus for carrying on this work consists of a 100-horse power Heine boiler, a 45-horse power Imperial cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Deane air pump and circulating pump; of a 25-horse power Harris-Corliss engine, a 35-horse power Westinghouse engine, a 25-horse power Atlas engine, two 9-horse power engines constructed by students in the shops, a duplex Deane steam pump, an Ericsson hot air engine, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, pyrometers,

scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester for correcting the standard gauge, a 35,000 pound testing machine, and Henning micrometer extensometer, a Carpenter calorimeter with auxiliary apparatus for determining the heating value of different fuels, a draft gauge, and a Henning pocket recorder.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Holme's Steam Engine, Reid's Machine Design, Perry's Applied Mechanics.

REFERENCE BOOKS.

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The Library contains a number of standard works on the various subjects studied, and the students are referred to them constantly for more extended treatment of many points that come up in class.

POST-GRADUATE COURSE.

The following course has been arranged and represents the amount of work required. Hydraulics may be substituted for thermodynamics if the members of the class are unanimous in wishing the change. Other substitutions may be made at the option of the professor, provided they represent an equivalent amount of work and are in the general line of the course selected.

Dynamometers.—This includes dynamometers and the measurement of power. Absorption and transmission dynamometers are studied, with their application and use in testing steam engines.

Valve Gears.—The different forms of valve gears of steam engines are studied, and problems in designing gears are worked out.

Thermodynamics of the Steam Engine.—This subject is studied theoretically and practically, and attempts a complete analysis of the action of steam in an engine.

Laboratory Work.—As much advanced laboratory work will be given as can be arranged with the appliances at hand.

TEXT-BOOKS.

Flather's Dynamometers and Measurement of Power, Spangler's Valve Gears, Peabody's Thermodynamics of the Steam Engine, Merriam's Hydraulics.

AGRICULTURE.

PROFESSOR DUGGAR.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and extends through three terms of the sophomore year and two terms of the junior year. The time devoted to this study in the lecture room is two hours per week with each class.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South. Practical work in judging live stock is included in the course. Five breeds of cattle and two of hogs are represented in the herd maintained by this department.

The first term of the sophomore year is devoted to dairying and to a study of the principles of live stock breeding. Dairying will be taught by practical work in the dairy—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; the control of water, including means of conserving moisture in times of drought, terracing, underdrainage, and open and hillside ditches; objects and methods of cultivation; agricultural implements; rotation of crops; and improvement of plants by crossing, selection, and culture.

The third term of the sophomore year is devoted to the staple crops produced in Alabama to forage plants adapted to the South, and to plants valuable for the renovation of soils. The more important crops are treated with reference to varieties, soil and fertilizer re-

quirements, methods of planting and cultivating, and uses.

In the junior year the subjects of feeding animals and of farm management are studied. Among the topics included under the latter heading are different systems of farming and stock growing, farm equipment and building, silos and silage, care of farm manures, composting, choice and methods of applying commercial fertilizers for different crops and soils, and economical methods of improving exhausted soils.

In every class the student is encouraged to independent thought on agricultural problems rather than to depend on "rules of thumb," so that he may be prepared to adapt his practice in after years to changed conditions of soil, climate, capital, market, etc. The successful farmer must be a thinker rather than a blind follower of inflexible rules.

The effort is made to keep before the student the difference between the widely applicable principles on which every rational system of farming rests and the details that vary with changing conditions. The conditions of soil, climate, etc., prevailing in different parts of Alabama are kept constantly in view.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign countries, to the end that in future years the student may know where and how to seek the information that he may need.

Applicants for post-graduate work in agriculture will be assigned special research work and aided in the line of investigation deemed best for each individual student.

REFERENCE BOOKS.

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Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Milk and Its Products, by Wing; Dairyman's Manual, by Stewart; Soils and Crops of the Farm, Morrow & Hunt; Forage Plants by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; The Soil, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of its Relations with Chemistry, by Storer; Manual of Cattle Feeding by Armsby; Feeds and Feeding, by Henry; Stock Breeding, by Miles; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture and the agricultural experiment stations.

BIOLOGY AND HORTICULTURE.

PROFESSOR EARLE.

ASSISTANT MASON.

The subject of biology is required of the senior class in the courses of chemistry and agriculture, and of pharmacy. It occupies five hours a week for three terms of the senior year. The work in this department will be largely confined to the study of the lower forms of plant life and to vegetable physiology, or the study of plants as living beings. Under the first head special attention will be given to the bacteria and other diseases producing organisms of man and the higher animals; and to the parasitic fungi that cause diseases of plants. Under vegetable physiology those problems that explain the foundation for correct agricultural practices will be made most prominent. This will include the germination of seeds, the food and nutrition of plants, the circulation of sap, the processes of reproduction, plant variability, etc.

The instruction will be by text-book, supplemented by lectures and by practical laboratory work.

The students will be required to make careful microscopic drawings of objects studied. They will also collect material in the fields and determine it so far as their instruction will admit.

The equipment for instruction in this department comprises, besides a sufficient lecture room a students' laboratory and two small glass rooms for cultural and bacteriological work. These are supplied with water, gas and all necessary appliances for thorough primary and advanced work, including compound and dissecting microscopes for each student, microtomes, paraffine baths, incubators, steam and dry sterilizers, instantaneous water heaters, Pasteur filter, chemical and common balances, set of Brendel's models of parasitic and other fungi, besides a large and well selected stock of glassware, staining fluids, chemical re-agents, culture, media, etc.

In the private office of the department, which is fitted up as a special laboratory for the use of the professor in charge, is located a



LABORATORY OF BIOLOGY.

good reference library and the scientific collections of the department. At present these consist of about 17,000 named specimens of fungi, and of the other groups of cryptogams. These books and collections are accessible to the students, and constitute, with the other resources mentioned, a superior equipment for advanced biological instruction.

HORTICULTURE.

At present special horticultural instruction is confined to the spring term of the junior year in the course of chemistry and agriculture, and to some practical work and "field lectures" to the students of the same course during the sophomore year. Instruction is given by lectures and text-book and by courses of reading, using the green house and orchards and gardens of the experiment station to give practical illustrations of the subjects taught.

Attention is called to the various fruits and vegetables that can be successfully cultivated in Alabama, and methods of propagation, cultivation and marketing are discussed. Particular attention is called to the diseases and insect enemies to which each of these crops are liable, and careful directions are given as to the best known means of combatting them. The construction and management of green-houses, hotbeds and cold frames receive special attention, while such topics as floriculture, landscape gardening and forestry are discussed in a general way only.

Special work will be arranged for any student desiring to take a more extended course in horticulture.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements. Ammunition for practice firing is used under the direction of an experienced officer. The exercises in target practice begin the first day of the third term.

The following uniform of standard cadet gray cloth has been prescribed for dress. Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at \$15 to \$16. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected either from the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and Commandant. The resignation of his office by a minor will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commissioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments



CORPS OF CADETS.

are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. army and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT DUNCAN.

PHYSIOLOGY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text-books, supplemented by blackboard drawings, charts, models of organs, a human skeleton and by dissections of some of the smaller animals (dog, cat, etc).

Martin's Human Body is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.



Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practice of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

The senior class in pharmacy devotes three hours per week, during the first and second terms to the study of therapeutics; and three hours per week during the third term to class room and laboratory work in bacteriology.

To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote their entire time to work in this department with the approval of the faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscopic examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites are found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilizations, inoculations of small animals, straining, microscopical examinations, may be learned. In the laboratory are 3 Bausch & Lomb and 2 Winkel microscopes, each of which is supplied with oil immersion objectives, 2 oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now

located by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor; and a one-story part which contains an operating room.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder etc. The hospital is supplied with fresh water.

A new brick and cement dissecting room (16x32) has just been completed. It is supplied with extensive north sky-light and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

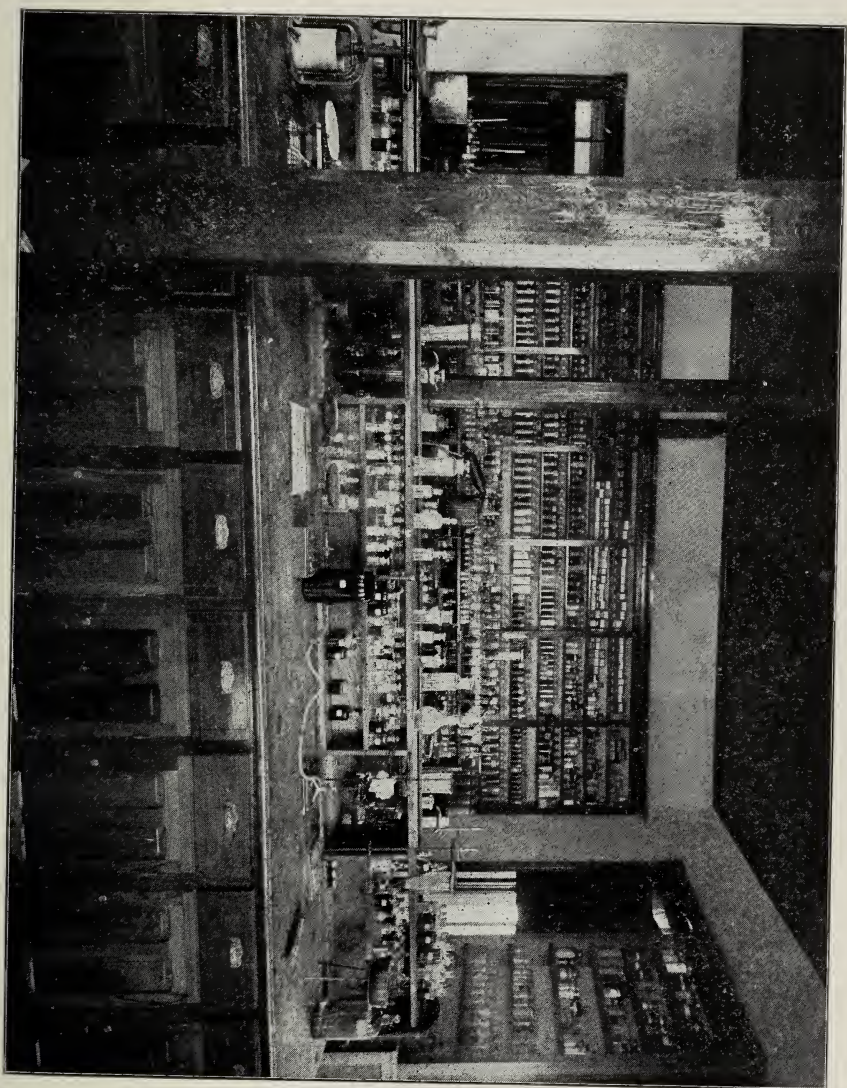
ASSISTANT MASON.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work,



LABORATORY OF PHARMACY.

four hours a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *four hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *nine hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than two hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus

and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance in recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the college limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the Association when they enter the Institute.

The ladies of the different churches in Auburn have recently formed an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the faculty, they will hold monthly a joint service of praise in the College chapel and will provide lecturers for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

A. F. JACKSON, President.

G. W. SNEDECOR, Vice President.

P. S. HALEY, Corresponding Secretary.

L. WHORTON, Recording Secretary.

J. T. LETCHER, Treasurer.

J. O. WEBB, Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery on the line of the Western Railroad.

The region is high and healthful noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spiritous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or being absent by reason of family sickness, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from College by his parents his zeroes for absences are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

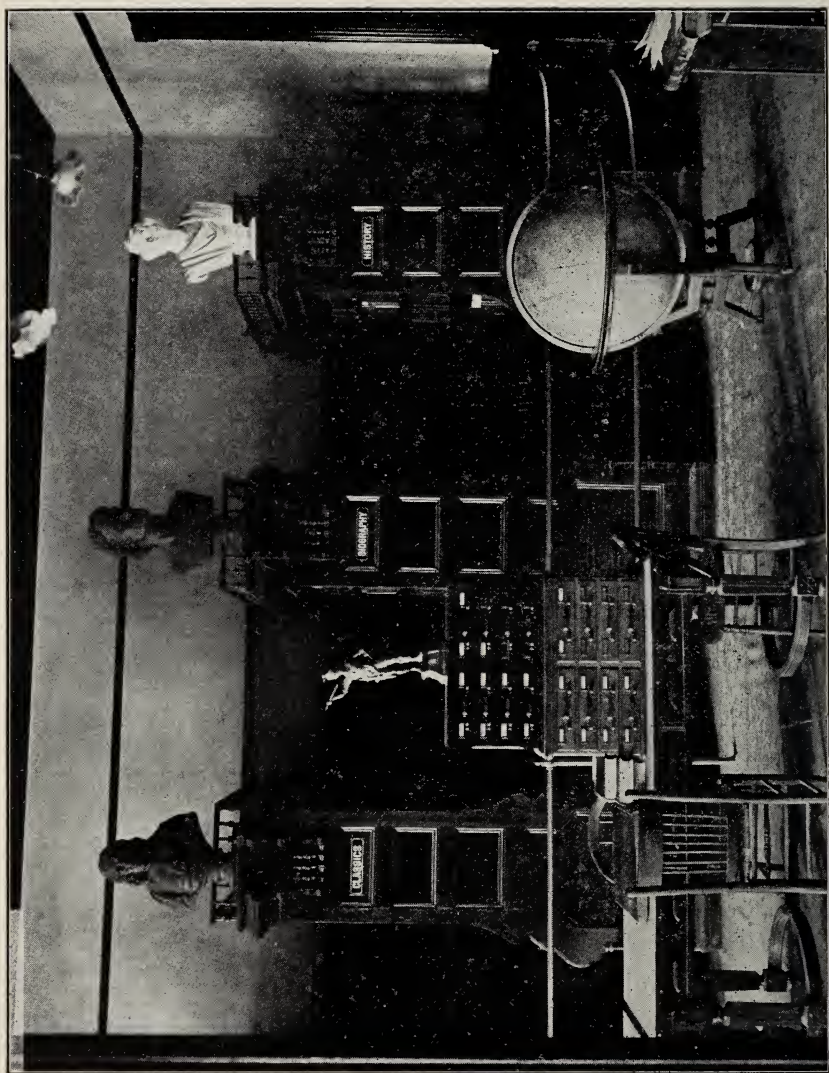
No cadet can continue an officer in the corps who during a session is classed in the fourth grade in two or more subjects at any term examination, or in the fourth grade in one subject at two term examinations; nor who receives during the session more than 60 demerits. For failures of officers re-examinations will not be granted.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class, provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.



GENERAL LIBRARY.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent., and less than 95, are published as

GRADUATES WITH HONOR.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates*.

Students, of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest distinction*.

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervening intervals reports, giving the grade made by each student, are sent to the parent or guardian.

EXAMINATIONS.

Written examinations on the studies of the month are held by each professor during the months of October, February and April. Each examination occupies one hour.

At the end of each term written examinations or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except in extreme cases.

LIBRARY.

The library occupies an elegant, well-lighted room in the main building, and also two smaller adjacent rooms. It contains over 15,000 bound volumes, including valuable reference and scientific

books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character. It is under the charge of Professor P. H. Mell, to whom specimens as contributions may be sent.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding-houses, are not permitted to make changes without obtaining permission from the president, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age and to those who are on the "honor roll," except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	\$5.00
Library fee, per session	2.00
Surgeon's fee, per session	5.00

\$12.00

These fees are payable on matriculation. By order of the trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

For a non-resident of the State there is a charge for tuition of \$20.00 per session, payable on matriculation, in addition to the annual fee of \$12.00 payable by all students.

Board, including lodging, fuel and lights, is furnished at \$12.50 to \$15.00 per month.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	\$ 12.00	\$ 12.00
Board, lodging, fuel and lights.....	112.50	135.00
Washing	9.00	9 00
<hr/>		<hr/>
Total	\$133.50	\$156.00

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mr. R. S. Rutland and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for \$9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to \$106.50 per session. This estimate does not include the cost of the uniform, about \$15.00, or of books, say from \$5.00 to \$15.00, or the laboratory fees in the higher classes, \$5.00 or \$10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in chemistry, or in electrical and mechanical engineering, a fee of \$5.00 per session is required. This fee is payable on admission to the laboratory and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is \$20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year,

to those who obtain a distinction the preceding year or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session 1899-1900, an honor scholarship, which exempted from tuition fees:

R. T. Arnold.....	Florida.
W. W. Askew.....	Georgia.
R. Y. Buchanan.....	Georgia.
D. Chipley.....	Florida.
J. D. Elliott.....	Minnesota.
F. C. Greene.....	Georgia.
A. F. Jackson.....	Georgia.
M. Ketchum.....	New York.
K. E. Lindrose.....	Louisiana.
J. H. Mitchell.....	Georgia.
H. E. Werner.....	Texas.
W. D. Willis.....	Florida.
H. M. Yonge.....	Florida.
J. E. D. Yonge.....	Florida.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made, by a contractor, of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present \$15.50. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to college property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:

Incidental fee.....	\$5 00
Library	2 00
Surgeon	5 00
Contingent fee	5 00
Uniform	15 50.....

For a resident of Alabama	\$32 50	\$32 50
Tuition non-resident		\$20 00

For a non-resident \$52 50

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say, \$27.50. Hence, a resident of Alabama should deposit with the Treasurer \$60.00, a non-resident, \$75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons, or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands and to pay all expenses incurred by the students including board, uniform, books, etc., when approved.

When funds are deposited checks are drawn on the Treasurer of the College by the Cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration and read and deliver the same at commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a labora-

tory showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22nd of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on commencement day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection to be determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and declamation.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

In 1885, the Alumni Society established "The Alumni Scholarship," which makes an annual loan of one hundred and seventy dollars to a beneficiary elected by the society. Young men have been thus enabled to go through college. This scholarship is supported by annual contributions from the Alumni and other friends of the institution.

The beneficiary selected is admitted without charge for tuition or college fees of any character.

Subscriptions should be sent to B. H. Crenshaw, Treasurer, Auburn, Ala.

The annual alumni oration is delivered by a member of the society, in Langdon Hall, on Alumni Day, Tuesday of commencement week.

The following are officers of the society:

R. AP C. JONES.....	President.
B. B. ROSS	1st Vice-President.
W. L. FLEMING	2nd Vice-President.
B. H. CRENSHAW	Treasurer.
H. H. KYSER	Secretary
A. A. PERSONS.....	Orator for 1901.
J. F. WEBB	Alternate.

SURGEON.

The surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1901-1902 commences on Wednesday, 11th September, 1901 (*second Wednesday after the first Monday*), and ends on Wednesday, 11th June, 1902 (*second Wednesday after first Monday*), which is commencement day.

It is divided into three terms. The first term extends from the opening of the session to the 20th of December; the second term begins January 2nd, and ends March 18th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

U. S. Government.—Public Documents, 376 volumes.

R. L. Thornton, Tuscaloosa, Ala.—History of the Indian Wars, by Henry Trumbull.

Gen. Jas. H. Lane, Auburn, Ala.—History of Randolph-Macon College, by Richard Irby.

Dr. Geo. Petrie, Auburn, Ala.—Proceedings of the First Annual Meeting of the National Conference on University Extension, compiled by George Francis James. Handbook of University Extension, edited by George Francis James.

Handbook of University Extension (second edition, revised and enlarged), edited by George Francis James.

Political Discussions—Legislative, Diplomatic and Popular, by James G. Blaine.

Report of the Special Committee on the Troubles in Kansas.

Historic Towns of the Southern States, edited by Lyman P. Powell.

Mrs. N. T. Lupton.—Five hundred pamphlets and periodicals devoted to scientific subjects.

DONATIONS TO ELECTRICAL ENGINEERING DEPARTMENT.

The General Electric Co.—One kilowatt transformer.

The Pyle National Electric Headlight Co.—Complete electric headlight equipment, consisting of compound steam turbine, dynamo, and projection lamp.

The Dressel Railway Lamp Works.—One eighteen-inch headlight casing and reflector.

DONATIONS TO AGRICULTURAL DEPARTMENT.

Three sacks nitrate of soda from Dr. J. A. Myers, New York, N. Y.

Two and one-half tons kainit from German Kali Works, New York, N. Y.

One ton muriate of potash from same.

One lot of seed corn from Curry-Arrington Co., Rome, Ga.

One lot of seed corn from W. S. Sanders, Danielville, Ga.

One lot of seed corn from Dr. W. C. Stubbs, Audubon Park, La.

One lot of seed corn from Prof. C. L. Newman, Fayetteville, Ark.

One lot of sorghum seed from Curry-Arrington Co., Rome, Ga.

One Hallock Success Weeder, from Hallock Weeder & Cultivator Co., New York, N. Y.

DONATIONS TO COLLEGE MUSEUM

During Session of 1900-1901.

By E. M. Duncan, brown iron ore of Russellville, Franklin County, Ala.; by I. Pickens, D. C. Thornton, E. Taylor, W. H. Chambers—several lizzards.; by W. C. Martin, bead purse taken from Indians in Barbour County during early settlement of that section; by L. Whorton, mole; by J. S. Black, J. M. McNamee, water moccasin; by G. F. Boyd, leather-winged bat; by S. H. Brown, snake; by J. O. Gogans, tanned snake skin; by R. G. Dawson, relic of Battleship Maine; by H. E. Werner, fossils; by W. D. Willis, fossils and minerals, scale of tarpon, specimen of coral formation, Indian relics, satin spar, mummy clothes, variegated sandstone, fossils and shells; by W. S. Rutledge, terrapin; by H. P. Powell, coal, tewenty-seven photographs of cliff dwellings in New Mexico; by Dr. W. H. Blake, three 7-foot rattlesnakes; by J. W. Boyd, Indian relics; by Dr. O. D. Smith, gold ores, quartz rock; by O. H. Alford, mineral ores, manganese ore; by W. L. Thornton, box quartz; by G. O. Dickey, white squirrel; by C. A. Collins, white water-worn pebble; by E. A. Miller, Columbian half-dollar; by W. S. Going, calcite from Pratt City, Ala.; by Miss E. B. Culver, two snouts of saw-fish; by E. S. Killebrew, large cane reed; by W. L. Anderson, gold-bug; by W. G. Little, herbarium

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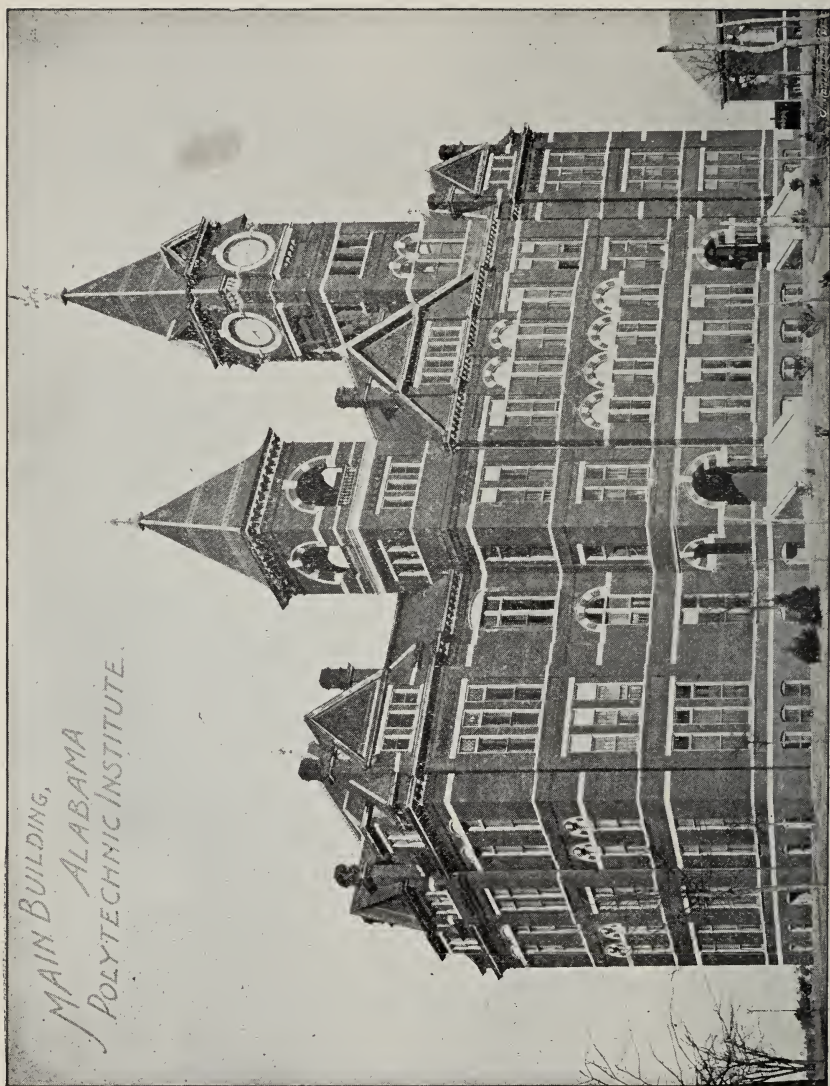
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MAIN BUILDING,
ALABAMA
POLYTECHNIC INSTITUTE.



CATALOGUE

OF THE

Alabama Polytechnic Institute

STATE COLLEGE

FOR THE

BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS

AUBURN, ALABAMA

1902

MONTGOMERY, ALABAMA
THE BROWN PRINTING COMPANY, PRINTERS AND BINDERS
1902

TRUSTEES.

His Excellency, W. D. JELKS, President.....*Ex-Officio*.
JNO. W. ABERCROMBIE, Superintendent of Education.. *Ex-Officio*.

TERM EXPIRES, 1907.

JONATHAN HARALSONMontgomery, Ala.
THOMAS WILLIAMS.....Wetumpka, Ala.
J. A. BILBROGadsden, Ala.

TERM EXPIRES, 1905.

J. M. CARMICHAEL.....Ozark, Ala.
W. K. TERRY.....Birmingham, Ala.
T. H. FRAZER.....Mobile, Ala.
I. F. PURSER.....Opelika, Ala.

TERM EXPIRES, 1903.

R. F. LIGON.....Montgomery, Ala.
TANCRED BETTSHuntsville, Ala.
WM. C. DAVIS.....Jasper, Ala.
E. T. GLENN, Treasurer. J. H. DRAKE, M. D., Surgeon.
R. W. BURTON, Secretary.

FACULTY AND OFFICERS.

*WILLIAM LEROY BROWN, M. A., LL. D.,
President.

OTIS DAVID SMITH, M. A., LL. D.,
Acting President, and Professor of Mathematics.

PATRICK HUGHES MELL, M. E., Ph. D.,
Professor of Botany and Geology.

JAMES HENRY LANE, C. E., M. A., Ph. D., LL. D.,
Professor of Civil Engineering and Drawing.

CHARLES COLEMAN THACH, M. A.,
Professor of English and Political Economy.

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Professor of History and Latin.

BENNETT BATTLE ROSS, M. Sc.,
Professor of General and Agricultural Chemistry and State Chemist.

JOHN JENKINS WILMORE, M. E.,
Professor of Mechanical Engineering and Director of Laboratory.

CHARLES ALLEN CARY, B. Sc., D. V. M.,
Professor of Physiology and Veterinary Science.

(a) EMERSON R. MILLER, PHAR. M., M. Sc.,
Professor of Pharmacy.

JOHN FREDERICK DUGGAR, M. Sc.,
Professor of Agriculture.

ARTHUR ST. CHARLES DUNSTAN, M. E., C. E.,
Professor of Electrical Engineering and Physics.

JOHN EDWARD WIATT, M. A.,
Professor of Modern Languages.

EDWIN MEAD WILCOX, M. A., Ph. D.,
Professor of Biology and Horticulture.

BOLLING HALL CRENSHAW, M. E.,
Associate Professor of Mechanical Engineering and Mathematics.

*Died January 23, 1902.

(a) Absent on leave, at University in Germany.

ALABAMA POLYTECHNIC INSTITUTE.

JAMES POWELL COCKE SOUTHALL, M. A.,
Associate Professor of Physics.

BENJAMIN SWEAT PATRICK, E. & M. E.,
Commandant and Acting Professor of Military Science.

ENOCH MARVIN MASON, M. Sc.,
Acting Professor of Pharmacy.

ROBERT JEFFERSON TRAMMELL, C. E.,
Assistant Professor of Mechanic Arts.

MICHAEL THOMAS FULLAN, M. Sc.,
Assistant Professor of Mechanic Arts.

CLIFFORD LEROY HARE, M. Sc.,
Assistant Professor of Chemistry.

WILLIAM OSCAR SCROGGS, M. Sc.,
Assistant Librarian, and Assistant in English.

WILLIAM WELCH HILL, E. & M. E.,
Assistant in Mechanic Arts.

ARTHUR FLOURNOY JACKSON, B. Sc.,
Assistant in Sub-Freshman English and Mathematics.

PAUL SHIELDS HALEY, B. Sc.,
Assistant in Civil Engineering and Drawing.

JOHN TALBERT LETCHER, B. Sc.,
Assistant in English.

(a) JAMES BAXTER JACKSON, B. Sc.,
Assistant in Chemistry.

(b) MATTHEW SCOTT SLOAN, B. Sc.,
Assistant in Electrical Engineering.

JESSE WRIGHT BOYD, B. Sc.,
Assistant in History and Latin.

JAMES OLNEY GOGGANS, B. Sc.,
Assistant in Veterinary Science.

HENRY EDWARD WERNER, B. Sc.,
Assistant in Mechanic Arts.

-
- (a) Appointed Jan. 2d, vice A. H. Mitchell, resigned.
(b) Appointed Jan. 2d, vice K. E. Lindrose, resigned.

COMMITTEES OF THE FACULTY.

COMMITTEE ON DISCIPLINE,
Professors Smith, Thach, Mell, Ross.

COMMITTEE ON ENTRANCE EXAMINATION,
Professors Smith, Thach, Petrie, Crenshaw.

COMMITTEE ON EXAMINATION OF SPECIAL STUDENTS,
Professors Wilmore, Dunstan, Miller.

COMMITTEE ON PUBLIC LECTURES,
Professors Petrie, Dunstan, Southall.

COMMITTEE ON LIBRARY,
Professors Thach, Petrie, Wiatt.

COMMITTEE ON ATHLETICS,
Professors Ross, Mell, Dunstan, Thach.

SUPERINTENDENT OF GROUNDS AND BUILDINGS,
Professor Wilmore.

CURATOR OF MUSEUM,
Professor Mell.

SECRETARY OF ALUMNI RECORD,
Professor Crenshaw.

AGRICULTURAL EXPERIMENT STATION.

COMMITTEE OF TRUSTEES ON EXPERIMENT STATION.

J. M. CARMICHAEL.....	Ozark, Ala.
THOMAS WILLIAMS	Wetumpka, Ala.
JONATHAN HARALSON	Montgomery, Ala.

STATION COUNCIL.

*WM. LEROY BROUN.....	President.
O. D. SMITH.....	Acting President.
P. H. MELL.....	Director and Botanist.
B. B. ROSS.....	Chemist.
C. A. CARY	Veterinarian.
J. F. DUGGAR.....	Agriculturist.
E. M. WILCOX.....	Biologist and Horticulturist.
J. T. ANDERSON.....	Associate Chemist.

ASSISTANTS.

C. L. HARE.....	First Assistant Chemist.
THOMAS BRAGG.....	Second Assistant Chemist.
J. C. PHELPS.....	Third Assistant Chemist.
T. U. CULVER.....	Superintendent of Farm.
R. W. CLARK.....	Assistant Agriculturist.
C. F. AUSTIN.....	Assistant Horticulturist.
G. F. FREEMAN.....	Student Assistant to Director.
M. J. LIDE.....	Student Assistant to Director.

OFFICER IN CHARGE OF FARMERS' INSTITUTES,

DR. C. A. CARY.

*Died Jan. 23d, 1902.

The Institute is a distinctive school of Science and its applications; being also the State College for the benefit of Agriculture and the Mechanic Arts established by the State in 1872, by endowing it with the land-grant appropriation made by the U. S. Congress in 1862.

The leading object of the Institute, in conformity with the act of Congress and the acts of the State Legislature, is to teach the principles and applications of science.

In its course of instruction it gives prominence to the sciences and their applications, especially to those that relate to agriculture and the mechanic arts; and at the same time the discipline and liberal education obtained by the study of language and other sciences are not neglected.

All students are required to study the English language. The Latin, French and German languages are also taught, and opportunity for their study is offered to students in any course.

The special and technical instruction given is thus based on a sound, general education.

In its different courses of education, work of great value to the youth of the State is accomplished by fitting them by a thorough science-discipline, in which manual training in the lower classes is made a prominent feature for the successful and honorable performance of the responsible duties of life.

While every attention is given to the mental discipline of the students in endeavoring to train them to habits of accurate scientific thought, and thus to qualify them for the duties of life, their moral and Christian training will always constitute the prominent care and thought of the Faculty. The Institute thus endeavors to educate as well as instruct, to form character as well as give information of value.

LABORATORIES AND FACILITIES FOR INSTRUCTION.

The Institute now possesses facilities for giving laboratory instruction in applied science in the following departments:

I. IN AGRICULTURE AND HORTICULTURE.

The farm contains 304 acres, and is supplied with illustrative specimens of stock of select varieties.

The agricultural experiment station, established in connection with the College, where experiments and scientific investigations relating to agriculture are daily made, affords unusual opportunities to students to become familiar with agriculture, its defects and remedies.

The students of agriculture accompany the professor in the field, garden, conservatory, stock-yard, etc., where lectures are delivered in the presence of the objects discussed, and during the year exercises in practical agriculture of an educational character are given the students who enter upon this course of study.

II. IN MECHANIC ARTS.

The laboratory of mechanic arts is used as an auxiliary in industrial education, and as a school of manual training in the arts that constitute the foundation of various industrial pursuits. The work performed by the students is instructive in character, as in any other laboratory, and the classes are taught in sections by a series of graded lessons under the supervision of the professor. In the lower classes of the Institute

each student enters this school and is assigned three exercises a week, each exercise being two hours long.

The object of this laboratory is not to teach a trade, but to educate, to discipline and train the eye and the hand, as well as the mind, and thus by associating manual and mental training, to educate thoroughly the student for the duties of life, whatever may be his vocation. There is no attempt to teach students special skill in constructing articles of commercial value, but all the exercises are systematically arranged and designed for purposes of education.

The wood department is located in a commodious hall, 90x50 feet, and is provided with a twenty-five horsepower Corliss engine, a planer, circular saw, band-saw, a buzz planer, a pattern maker's lathe, twenty-four stands, each with a lathe and a full set of tools, and thirty benches for carpenter work with the tools requisite for construction.

A brick building, 52x87 feet, with two rooms, has been constructed especially for instruction in working iron.

One room is equipped with twenty-four forges and tools required for a forge department, and the other with a Colliau cupola furnace, a core oven, a brass furnace, molding benches, foundry crane constructed by students, and special tools for use in a foundry.

The forge and foundry rooms are furnished with a fan and exhauster, supplied with power from an engine constructed by the students in mechanic arts.

The machine department occupies a brick building, 30x100 feet, and is equipped with eleven engine lathes, one speed lathe, one 20-inch drill press, one 10-inch sensitive drill, one 16-inch shaper, one 5-foot planer, one 6-foot planer, one universal milling machine, a corundum tool grinder, a small emery grinder, a No. 1 Brown

& Sharpe universal grinding machine, a universal cutter and reamer grinder, and a power hack saw.

The chipping and filing department is arranged with benches, vises and tools for eighteen students.

The tool room is well supplied with special tools for use in instruction, including a machine for grinding twist drills. The rooms are lighted with electricity whenever necessary.

III. IN PRACTICAL CHEMISTRY.

The chemical laboratory is supplied with modern apparatus, and in its equipment affords excellent facilities for instruction in practical chemistry and for investigation.

The investigations that are undertaken in this laboratory by scientific experts, in connection with the work of the agricultural experiment station, are of especial value to advanced students, and afford them unusual opportunities to learn the methods of scientific research.

The building contains a large general laboratory that accommodates sixty students, a special laboratory for Seniors that will accommodate thirty students, a lecture room with a capacity for one hundred seats, and nine other rooms, all appropriated to instruction and research in chemistry.

IV. IN ELECTRICAL ENGINEERING.

The electrical laboratory is well supplied with modern appliances for instruction in electrical engineering. It occupies three large rooms in the basement and is equipped with many fine instruments of precision.

In addition to resistance boxes, bridges, condensers, galvanometers, dynamometers, wattmeters, photometers, and other laboratory instruments, the department

is supplied with representatives of the best types of commercial electrical instruments from foreign and domestic makers.

The laboratory is also equipped with apparatus for making breakdown tests of insulating materials, up to 30,000 volts, also with spectroscopic apparatus for testing the quality of arc light carbons.

The dynamos occupy a separate building and are operated by a twenty-five horse power Atlas engine, and a sixty horse power Harrisburg standard engine. In this building are installed the following dynamos:

Edison compound 12 Kilo-watt generator, Thompson-Houston 150 light 110 volt dynamo, Weston 150 volt 25 ampere generator, Crocker-Wheeler one horse power motor, Ideal 3 phase alternator, Brush 6 arc light dynamo with lamps, two Baxter street car motors, 20 horse power each (so connected as to be used as direct or alternating current motors or generators), one 5 horse power three phase motor, one General Electric 20-horse power motor, one 40 light shunt dynamo, one Edison 3 Kilo-watt generator, one Stanley induction motor with condensers, two bi-phase induction motors (built by students), one 9 light Thompson-Houston arc machine, one Fort Wayne 1 horse power alternating current motor, a number of transformers, etc., two phase alternator and 500 volt 20 ampere generator, made by students. There is also in connection with this department at the experiment station, a ten horse power motor, made by students, which is operated by the 500 volt generator in the dynamo room.

V. IN PHYSICS.

The physical laboratory occupies two rooms, one of these being permanently darkened for experimental work in light.

It is equipped with numerous standard instruments of precision, such as verniers, micrometers, cathetometers, a horizontal comparator, a Kater's reversion pendulum, balances, etc., and a quantity of minor apparatus.

Recently there has been added a concave grating spectrograph, a large induction coil of 12 inch spark, and other apparatus of value.

VI. IN MINERALOGY.

This laboratory occupies a convenient room in the basement, and is provided with tables and appliances to accommodate thirty students, with an excellent collection of minerals.

VII. IN BOTANY.

In the work of the agricultural experiment station there is a botanical garden under the charge of the professor of botany; investigations in botany are given special attention, and opportunities are offered advanced students for practical work in a laboratory especially fitted with microscopes, tables, a dark room for photographic work, and appliances needed for instruction and research. This department is provided with Auzoux's elastic models of seeds and flowers for teaching botany.

VIII. IN BIOLOGY.

The laboratory for plant morphology, histology, and pathology adjoins the lecture room of the professor, and is well equipped with appliances for the investigation of these subjects.

A small laboratory and adjoining greenhouse are being thoroughly equipped for work in experimental

plant physiology and pathology. It is hoped that during the coming year excellent facilities may then be offered for the study of these objects.

IX. IN ENGINEERING AND SURVEYING.

The necessary apparatus for field work, including transits, levels, plane table, models of bridges, etc., is provided for the use of the students, and the customary exercises in the field are given.

X. IN DRAWING.

All students in the lower classes are required to take drawing, a study which tends to discipline the mind, as well as to train the eye and hand to accuracy of observation and execution. A large, well-lighted drawing room, which will accommodate fifty students, is provided with tables, lock-boxes, etc.

XI. IN MECHANICAL ENGINEERING.

The mechanical course has been extended to include experimental work in mechanical engineering.

The apparatus available for this instruction is as follows: A 45-horse power Imperial Cross compound engine, specially arranged for experimental work, supplied with Wheeler surface condenser and Worthington air pump and circulating pump, a 25-horse power Harris-Corliss engine, a 35-horse power Westinghouse engine, two 9-horse power engines constructed by students, the 100-horse power boiler belonging to the regular power plant, a Deane duplex steam pump, a 4-horse power gasoline engine, an Ericsson hot air engine, a New York air pump, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, thermometers, a pyrometer, scales, a standard steam

gauge with apparatus for testing steam gauges, a Crosby dead weight tester with weights for correcting the standard gauge, a 35,000-pound testing machine, a Henning micrometer extensometer, and a Carpenter calorimeter with the necessary auxiliary apparatus for determining the heating value of different kinds of coal.

This work is now carried on in the lower story of the annex to the chemical laboratory. This room is 30x60 feet in size, and was specially designed and fitted up for this purpose. A three-inch steam main has been laid from the boiler house, thus securing a steam supply in the building for all work requiring it. The work is thoroughly practical, and it is desired to extend it as rapidly as the funds available for the purchase of apparatus will allow.

XII. IN PHYSIOLOGY AND VETERINARY SCIENCE.

There has been constructed for the veterinary department a new and separate two-story building with nine rooms. It is provided with lecture room, office, working and operating rooms for clinical practice, and museum with skeletons of the domestic animals for instruction. Free clinics are given every Saturday for the benefit of the students in veterinary science.

There is a separate dissecting room constructed, with cement floor and north roof light especially for this department. This Laboratory is used by the professor and students each afternoon for three months.

XIII. IN PHARMACY.

The laboratory of this department occupies the second floor of the annex to chemical laboratory, and is provided with a sufficient supply of drugs and apparatus necessary for instruction in pharmaceutical preparations.

The students work in the laboratory with the professor, from five to eight hours, six days in the week.

The facilities are increased as means are available.

MILITARY TACTICS.

Instruction in this department is given in conformity with the act of Congress. Students receive the benefit of regular military drill, and in addition the military system is used as a means of enforcing discipline and securing good order, promptness and regularity in the performance of academic duties.

This department is supplied with cadet rifles and accoutrements for the corps.

COLLEGE BUILDINGS.

The frontispiece is a representation of the main College building. It is 160x71 feet, and contains forty-five rooms. This building is not used for dormitories for students, but is appropriated to purposes of instruction and investigation.

It contains the lecture rooms and offices of the professors, laboratories, library, museum, armory, etc.

LANGDON HALL.

This is a two-story building, 90x50 feet. The second story is the audience hall, used for commencement and other public occasions.

The first story is appropriated to the laboratory of mechanic arts.

THE CHEMICAL LABORATORY.

As shown on the opposite page this is a two-story structure, 40x60 feet, with a rear projection, 35x60 feet, of one-story and basement, and contains eight rooms. The exterior is of pressed brick, with cut stone trimmings and terra cotta ornamentation.

In the basement are ample accommodations for assaying and storage.

The main laboratory will accommodate sixty students, and contains improved working tables, with water, gas and every necessary appliance for chemical work.

The laboratory for advanced work in chemistry will accommodate thirty students and is equipped in the same manner. Adjoining this are two rooms which are used respectively as a balance room, and a room for work with spectroscope, polariscope, etc.

The second story contains a lecture room with seats and tablets for eighty students. Around the lecture room are cases containing crude and manufactured products, illustrating agricultural and mechanical chemistry, prominent subjects taught in the institution.

ANNEX TO CHEMICAL LABORATORY.

This is a three-story brick building, containing rooms for pharmacy, mechanical engineering and drawing.

The Chemical Laboratory for the Agricultural Experiment Station occupies a building 60x26 feet and is appropriated exclusively for chemical investigation and research, and not for instruction.



CHEMICAL LABORATORY.

HONOR ROLL FOR CONDUCT, 1902.

The names of the following cadets, who have received no demerits during the year, are placed upon the honor roll for good conduct:

SUB-FRESHMAN CLASS.

Hixon, C. B.	Rhodes, C. E.
Holt, J. E.	Wilson, W. S.
Jackson, C. E.	Webb, T. J.
Nelson, A. B.	Webb, E. F.

SPECIAL STUDENTS.

Bonner, W. J.	McNeel, A. M.
Crumpler, L. H.	Owen, W. F.
McLeod, H.	Sawyer, B. R.
Jackson, E. C.	Steele, B. W.

FRESHMAN CLASS.

Allison, H. A.	Middleton, F. S.
Campbell, B. M.	Newman, F. F.
Gong, W. S.	Robinson, J. L.
Greene, J. B.	Riley, T. A.
Hanby, E. K.	Rogers, C. M. A.
Jackson, C. J.	Thomas, A. L.
McAdory, I. S.	Wood, J. W.
Meredith, W. M.	

SOPHOMORE CLASS.

Burke, R. P.	Matson, T. H.
Chipley, D.	Mitchell, J. H.
Davis, H. E.	Rigney, P.
Foss, G. B.	Rutledge, C. P.
Hill, G. B.	Thornton, W. L.
Hudson, J. D.	Turnley, W. M.
Hunt, F. E.	Yonge, H. M.
Kauffman, R.	

JUNIOR CLASS.

Atkinson, F. C.
Ellis, M.
Collins, C. A.
Dawson, R. G.
Feagin, C. E.
Hamilton, W. B.
Herndon, D. T.

Kyser, J. A.
Lide, M. J.
Snedecor, G. W.
Webb, J. O.
Willis, W. D.
Yonge, J. E. D.

SENIOR CLASS.

Arnold, R. T.
Bradford, K.
Bragg, T.
Conner, H. H.
Eagar, W. H.
Felton, L. M.
Foy, J. D.
Hagler, W. H.
Haley, P. S.
Jackson, A. F.
Jackson, J. B.
Kahn, M. D.
Kauffman, C.

Killebrew, E. S.
Letcher, J. T.
Lindrose, K. E.
Noll, W. L.
McCrary, W. D.
McGehee, W. B.
Parker, D. J.
Pnelps, J. C.
Stickle, H. S.
Turpin, M. C.
Werner, H. E.
Whitfield, G.
Williams, J. C.

GRADUATES IN 1901.

CLASS OF 1901.

HONORS.

Members of the Senior Class who attained distinction with a grade of 95 per cent. are Graduates with Highest Honor. Those who attained a distinction with a grade of 90 per cent. and less than 95, are Graduates with Honor. Those who attained less than 90 per cent. and more than 60 per cent. are Graduates.

DEGREES.

BACHELOR OF SCIENCE.

GRADUATES.

Robertson Tanner Arnold	Florida
Idaline Bell	Lee
Kenneth Bradford	Montgomery
Samuel Hamner Browne	Tuscaloosa
Salmon Holmes Burns	Lee
David James Castleman	Hale
LeRoy Madison Felton	South Carolina
James Olney Goggans	Tallapoosa
Walter Lee Greene	Lee
William Hope Haigler	Montgomery
Michael Smith Harvey	Lee
Charles Henry Haynes	Bullock
Daniel Hagood Haynes	Dallas
Arber Samuel Hertz	Georgia
Robert Holland Hood	Jefferson
Arthur Flournoy Jackson	Georgia
James Baxter Jackson	Lee
Jefferson Franklin Jones	Sumter
Claude Kauffman	Mobile
Emmett Stephens Killebrew	Dale
William Reid Lancaster	Lee

Walter Deems McCrary	Lee
William Boyd McGehee	Montgomery
Benjamin Baldwin Meriwether	Montgomery
Isaac Lenoir Moore	Lee
Merrill Hastings Moore	Montgomery
William Louis Noll	Tennessee
James Cochran Phelps	Lee
James Blackmon Powell	Bullock
Shepherd Harrison Roberts	Montgomery
Harvey Owen Sargent	Franklin
Lyman Hall Shaw	Sumter
Henry Alexander Skeggs	Morgan
Matthew Scott Sloan	Mobile
Holland McTyeire Smith	Lee
Louis Sternfeld	Montgomery
Leonidas Wharton	Cherokee
Gaius Whitfield	Marengo
Jere Crawford Williams	Lee
John Rutledge Williams	Jefferson
Edward Houston Wills	Lee

GRADUATES WITH HONOR.

Herschel Winston Bass	St. Clair
Thomas Bragg	Lee
Herschel Henry Conner	Macon
William Hamilton Eagar	Winston
Eugene Flynn Enslen	Jefferson
John Drewry Foy	Barbour
Myron Daniel Kahn	Lee
Karl Edward Lindrose	Mississippi
Dorsey Julian Parker	Escambia
Oscar Menderson Schloss	Barbour
John Hunt Skeggs	Morgan
Godfrey Rhodes Thomas	Sumter
Manly Curry Turpin	Virginia
Henry Edward Werner	Texas

GRADUATES WITH HIGHEST HONOR.

Paul Shields Haley	Walker
John Talbert Letcher	Macon
Abram Hill Mitchell	Lee

POST-GRADUATE DEGREE.

MASTER OF SCIENCE.

Idaline Bell	Lee
Emma Beall Culver	Lee
Charles Lewis Harold	Escambia
Mabel Heard	Lee
John William Jepson	South Carolina
Enoch Marvin Mason	Conecuh
James Richard Rutland	Chambers
Harvey Owen Sargent	Franklin

DISTINGUISHED STUDENTS.

DISTINCTIONS.

Students who receive a grade above 90 per cent, and less than 95 in three studies in the Freshman class, in four in the Sophomore class, in five in the Junior, and in six in the Senior, are distinguished for excellence in scholarship, and are awarded Certificates of Distinction. Those who receive a grade above 95 per cent. are awarded Certificates of Highest Distinction.

JUNIOR CLASS.

DISTINCTION.

William Cruse Coles	Marshall
James Browder Garber	Hale
William Bulger Hamilton	Elmore
Gaston Joel Lipscomb	Marengo
Walker Dorr Willis	Florida

HIGHEST DISTINCTION.

Marvin Ellis	Morgan
James Allen Kyser	Dallas
Martin James Lide	Dallas
Richard Blount Shepard	Mobile
George Waddell Snedecor	Jefferson
John Eayres Davis Yonge	Florida

SOPHOMORE CLASS.

DISTINCTION.

Rush Pearson Burke	Montgomery
Dudley Chipley	Florida
Sidney Cornell	Jefferson
Howard Ellis Davis	Mobile
Thomas Joseph Dowdell	Montgomery
George Bridges Foss	Etowah

Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
William Lawson Thornton	Talladega

HIGHEST DISTINCTION.

None.

FRESHMAN CLASS.

DISTINCTION.

Julian Sidney Chambers	Montgomery
James Henderson Childs	Georgia
William Lawrence Dumas	Mobile
James Buchanan Green	Crenshaw
Chauncey Smith Joseph	Montgomery
John McDuffie	Monroe
Frederick Shealy Middleton	Chambers
Fenton Forest Newman	Talladega

HIGHEST DISTINCTION.

Frederick Emanuel Geibel	Montgomery
John William McConnell	Jefferson
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia

SPECIAL STUDENTS.

DISTINCTION.

Ethel Julia Harwell	Lee
Mollie Hal Hollifield	Lee
Herbert McLeod	Pike
Sallie Fleming Ordway	Tennessee
Henry Sleeth Stickle	Lauderdale

CATALOGUE OF STUDENTS.

FOR SESSION OF 1901-1902.

GRADUATE STUDENTS.

(Residence in Alabama when State is not given.)

<i>Name.</i>	<i>Residence.</i>
Herschel Winston Bass.....	St. Clair
Idaline Bell	Lee
Jesse Wright Boyd	Lee
Mary Wright Boyd.....	Lee
Thomas Bragg	Lee
Marion Lara Brown	Georgia
Emma Beall Culver	Lee
James Olney Goggans	Tallapoosa
Paul Shields Haley	Walker
Michael Smith Harvey	Lee
Arthur Flournoy Jackson	Georgia
James Baxter Jackson.....	Lee
Kate Meade Lane	Lee
John Talbert Letcher	Macon
Karl Edward Lindrose	Louisiana
Frederick Greenville Matthews	Lee
Abram Hill Mitchell	Lee
Augustus Young Napier	Lee
James Cochran Phelps	Lee
Matthew Scott Sloan	Mobile
Henry Edward Werner	Texas
Edward Houston Wills	Lee

UNDERGRADUATE STUDENTS.

SENIOR CLASS.

Oliver Hannibal Alford.....	Marshall
William Marvin Askew	Georgia
Frederick Cornelius Atkinson	Dale
Charles Homer Billingsley	Elmore
Edward Lambeth Carroll	Florida
William Cruse Coles	Marshall
Clyde Allen Collins	Hale
Alpheus Mallette Davis	Florida
Robert Geoghegan Dawson	Montgomery
Jesse Duncan Elliott	Minnesota
Marvin Ellis	Morgan
James Douglas Farley	Lee
Clarence Eugene Feagin	Bullock
James Browder Garber	Hale
Arthur Rodfer Gray	Florida
Jeremiah Warren Gwin	Jefferson
William Houston Gwin	Jefferson
William Bulger Hamilton	Elmore
Clifton Duane Haynie	Lee
William Tillman Heard	Lee
Dallas Tabor Herndon	Henry
McIlie Hal Hollifield	Lee
Franklin Jerome Houston	Jefferson
Collins James Johnson	Missouri
Morris Ketchum	New York
Howard Malcolm Kilpatrick	Georgia
Martin James Lide	Dallas
Gaston Joel Lipscomb	Marengo
Earle Irwin McBryde	Wilcox
Thomas Michael McCarroll	Florida
Henry Bigham Park	Georgia
Douglass Welles Peabody	Illinois

George Clement Sequiera	Nicaragua
Brady Wilkinson Steele	Autauga
Richard Blount Shepard	Mobile
Enrico Alfonso Washington	Georgia
John Osceola Webb	Coosa
Walker Dorr Willis	Florida
John Eayres Davis Yonge	Florida

JUNIOR CLASS.

Albert Miner Avery	Florida
Marshall Leonard Bize	Georgia
James Victor Blackwell	Calhoun
Stewart Dixon Brown	Henry
† Ryland Crews Bryant	Jefferson
Rush Pearson Burke	Montgomery
Robert Wright Cabaniss	Jefferson
Thomas Arthur Caddell	Etowah
† William Julius James Chase	Georgia
Dudley Chipley	Florida
William Hudmon Cooper	Lee
Sidney Cornell	Jefferson
Charles Sanders Culver	Lee
Howard Ellis Davis	Mobile
William Watson Davis	Mobile
William Wert Dinsmore	Morgan
Thomas Joseph Dowdell	Montgomery
† William Eugene Finch	Florida
George Bridges Foss	Etowah
George Fouche Freeman	Cherokee
William Lanier Halsey	Madison
Earnest Cecil Haynie	Lee
Bell George Hazard	Calhoun
Henry Hiden	Jefferson
George Bloise Hill	Talladega
Wilburn Hill	Etowah

† Not in full standing.

Alexander Grice Horn	Sumter
James Daughtry Hudson	Georgia
Roy Kauffman	Mobile
Walter Joseph Knight	Mobile
George Duncan Lesesne	Mobile
Percy McLean Marshall	Georgia
Winfield Scott Martin	Jefferson
John VanValkenburg Matthews	Madison
Robert Peyton Mims	Jefferson
John Harris Mitchell	Georgia
Thomas William Morgan	Jefferson
Frank Elmer Miller	Calhoun
Sallie Fleming Ordway	Tennessee
James Porter Paterson	Montgomery
†David Philips Pruett	Bullock
Wallace Powell Pruitt	Lowndes
†George Daniel Randle	Jefferson
John Patrick Rembert	Mississippi
Paul Rigney.....	Madison
William Richard Rison	Madison
Tod Hewitt Roberts	Jefferson
Carl Robinson	Tallapoosa
William Watson Rutland	Chambers
Clifford Philip Rutledge	Lee
Hans Schmidt	Jefferson
John Rice Searcy	Conecuh
Walter Otey Shivers	Perry
Edmund Rhett Taber	Montgomery
Edward Taylor	Marengo
Louis Earle Thornton	Florida
William Lawson Thornton	Talladega
Holmes Fielding Troutman	Georgia
Filo Harris Turner	Florida
William Micou Turnley	Elmore
Joseph Dorrah Walker	Jefferson
Henry Matthew Yonge	Florida

† Not in full standing.

SOPHOMORE CLASS.

Henry Alexander Allison	Sumter
William Leroy Alston	South Carolina
John Shillman Arnold	Florida
Frank Gordon Bell	Lee
John Ambrose Beckham	Lee
William Arthur Branan	Georgia
Jefferson Edward Brown	Jefferson
Andrew Duke Cameron	Macon
†Borden Montgomery Campbell	Greene
Emmett Tulane Camp	Etowah
Julian Sidney Chambers.....	Montgomery
Alan Armistead Chester	New York
James Henderson Childs	Georgia
Victor Hugo Clements	Limestone
William Shapard Dowdell	Lee
William Lawrence Dumas	Mobile
George Dungleinson	Talladega
Verlie Roy Emrick	Jefferson
Devotie Glover Ewing	Lowndes
Edwin Washington Ewing	Lowndes
Clarence Evelyn Field	Jefferson
Walter Summerville Going	Jefferson
James Buchanan Green	Crenshaw
Heyman Hagedorn	Georgia
Leonard Park Hall	Jefferson
Walter Leonidas Harwell	Lee
Guy David Hawkins	Jefferson
†John David Hudson	Lee
Charles Jefferson Jackson	Montgomery
Donald Van de Water Jenkins.....	Talladega
Walter Wier Johnston	Calhoun
Allen Green Jones	Dallas
Hilary Boston Jones	Washington
Chauncey Smith Joseph	Montgomery

† Not in full standing.

Isham Kimbell	Clark
Frank Ragan King	Jackson
Edward Philip Lacey	Jefferson
Harry Thomas Landrum	Jefferson
Tracy Lay	Etowah
Henry Richard Luscher	Mobile
Isaac Sadler McAdory	Jefferson
John William McConnell	Jefferson
John McDuffie	Monroe
Henry McDonnell	Madison
Thomas Pettus McElderry	Talladega
William Hugh McEniry	Jefferson
William Monroe Meredith	Greene
Arthur Wilhelm Merkel	Jefferson
Frederick Shealy Middleton	Chambers
William Pittman Moon	Coosa
Lee Penn Montgomery	Lee
Edward Owen Perry	Georgia
†Anderson Petrinovich	Mobile
Forney Renfro	Lee
Thomas Shepard Roche	Mobile
James Lon Robinson	Jefferson
Charles McPherson Rogers	Sumter
James Emmet Seale	Sumter
William Martin Shepard	Mobile
Berner Leigh Shi	Georgia
Washington Irving Shi	Georgia
Solomon Kauffman Simon	Marengo
†John Floyd Smith	Calhoun
Zachary Pope Smith	Jefferson
Paul Stewart	Jefferson
Joseph Churchill Strong	Mobile
John Randolph St. John	Mobile
Albert Lee Thomas	Lee

† Not in full standing.

Thornton Albert Ward	Lee
William Francis Ward	Lee
† Francis Hobbs Watson	Dallas
William Clifford Wear	Lee
Robert Eubank Williams	Jefferson
John Mayer Wilson	Clark
William Mason Wilson	Etowah
Cullen Haddley Wimberly	Sumter
John Washington Wood	Jefferson

FRESHMAN CLASS.

Hiram Victor Arnold	Florida
Eric Alsobrook	Lee
Franklin King Beck	Wilcox
Frederick Rudolph Bell	Lee
Theodore Chesbro Bowling	Washington
James Seaborn Boyd	Montgomery
Thomas Cobb Bradford	Lee
Samuel Davis Brown	Georgia
Sylvanus Burney	Chambers
Dugald Herbert Carmichael	Jefferson
† Frank Furness Cawthon	Dallas
Lambert Alexander Chambliss	Autauga
Lemuel Jackson Cobb	Cherokee
Lynn Lewis Conner	Macon
Balius Pinckney Cooper	Washington
Robert Cummins	Dallas
† Edward James Duncan	Tallapoosa
Robert Lee Ellis	Autauga
James Chester Elmer	Mississippi
Edgar Ervin Esslinger	Madison
† Claud Belle Etheredge	Dallas
Willis Marone Etheridge	Calhoun
Frank Trimble Evans	Georgia
Bertram Ezekiel	Butler

† Not in full standing.

Edgar Earl Ferrell	Greene
†John Heggie Findlay	Hale
Welham Humphrey Foy	Barbour
Mither William Francis	Randolph
†Benjamin Shields Gilmer	Choctaw
Frank Lovell Gonce	Tennessee
Edward Alexander Graham	Autauga
Edward Servanios Hitch	Georgia
†James Elliott Holt	Russell
Frank Parkinson Howard	Macon
Percy Wilbur Hudson	Lee
Frank Paul Hurt	Jackson
Charles Edwin Jackson	Madison
George Wallace Jackson	Lee
Frederick McClendon Jenkins	Georgia
Earl Eugene Jenks	Mobile
Arthur Dean Jones	Pike
Earl Kauffman	Mobile
Albert Roy Killebrew	Dale
Bertram Joseph Lane	Talladega
†McCloy Harding Martin	Lee
Coke Smith Matthews	Jefferson
Charles Whitaker May	Russell
George Elisha McCord	Jefferson
Richard McCulloh	Louisiana
Claude Cooper McLean	Covington
Louis Walton Montgomery	Lee
Harry Redwood Murray	Mobile
Cicero Lewis Nelson	Baldwin
John Haygood Paterson	Montgomery
Wert Horace Peace	Jefferson
John Henry Peebles	Limestone
Monroe Thomas Penn	Lee
Henry Clarence Perkins	Barbour

† Not in full standing.

John Ross Philips	St. Clair
George Wallace Postell	Jefferson
John Henry Powell	Lee
Marshall Gowan Price	Marengo
Francis Esten Purifoy	Wilcox
Frank Bellamy Rutledge	Lee
Robert Hyde Sanders	Hale
Walter Robert Samford	Lee
Batt Lockard Spain	Texas
Linwood Seale	Sumter
Marvin Pearce Summers	Lee
Grover Cleveland Thompson	Macon
John Edward Thigpen	Lowndes
Henry Howard Thornton	Talladega
William Biggers Tucker	Lee
Perry Williams Turner	Colbert
Charles Spurgeon Waldrop	Jefferson
Walter Van Weatherby	Mississippi
Elbert Fain Webb	Cherokee
Fletcher Gordon Webb	Lee
James Samuel Webb	Lee
Samuel Borders Wilson	Talladega
John Douglas Wilkins	Marengo
*Edward Louis Wright	Lee
Oliver Earle Young	Sumter

SPECIAL AND IRREGULAR STUDENTS.

Abbreviations: Ph—Pharmacy; E. & M. E.—Electrical and Mechanical Engineering; C.—Chemistry; Ag.—Agriculture; C. E.—Civil Engineering; Mech. A.—Mechanic Arts; E. E.—Electrical Engineering.

Bessie Susan Alvis	Lee
Ralph Calloway Armstrong .. Ph.....	Lee
Robert Trammell Babgy C. E.....	Lee
Martin Vanburen Beason... Mech. A	St. Clair
Herman Davidson Blake... Mech. A.....	Florida

* Deceased.

Hyman Blumberg.....	Chambers
William Bonner.....E. & M. E.....	Wilcox
Marvin Fitzpatrick Boykin.....	Lee
Charles Franklin Bradshaw.....	Randolph
William Jefferson Bruister...Ag.....	Choctaw
Frank Barnard Clark.....	Mobile
Willis Gaylord Clark....E. & M. E.....	Michigan
William Rather Coleman....C. E.....	Colbert
Henry Denegre.....	Jefferson
Woodson Lea Ennis.....Ag.....	Sumter
Arthur FincherPh.....	Lee
James William Flanagan....Ph.....	Lee
Daisy Douglas Foster	Lee
Marcus Luculus FosterE. E.....	Etowah
William Alexander Frazer...Ph	Lee
Charles Williams Gonce	Tennessee
Alexander Hamilton Green	Florida
Kernon Hugh Gaines.....	Chambers
Leonard Graham Gresham.Mech. A.....	Autauga
James Coulson Harper.....C. E.....	Mississippi
Ethel Julia Harwell.....	Lee
Robert Hinton Hogg.....	Georgia
William Dana Hubbard..E. & M. E.....	Dallas
Mell Frazer Jackson.....Ph.....	Lee
John Sandford Jewett.....Ph	Florida
William Micou JordanPh.....	Elmore
Walter Maurice Jones-	
WilliamsE. E.....	Lee
William Jackson Marsh....Ph.....	Lee
Allen Davis McLain.....Ph.....	Lee
Herbert McLeodPh.....	Crenshaw
Allen Massilon McNeel...E. & M. E.....	Montgomery
George Newburg Montgomery.....	Mobile
Jabez Curry Nelson.....C. E.....	Jefferson

Fenton Forest Newman	Talladega
Louis Milton Noll.....Ph.....	Jefferson
Albert Welman Pratt	C..... Madison
Laurens Walter Pierce...E. & M. E.....	Elmore
John Vincent Pierson.....C.....	Perry
Oscar Early Rutland.....Mech. A.....	Lee
William Harvey Robertson....Ph	Jackson
Benjamin Riley Sawyer..... Ph.....	Calhoun
Edward Ramsey Scott	Tennessee
Fletcher Porter Sewell.....Ag.....	Cherokee
Rufus Pew Shuptrine.....Ph.....	Dallas
Julian Cassius Smith.....E. & M. E.....	Macon
Hunter Molton Smith.....E. E.....	Jefferson
Robert Ware Sistrunk.....	Elmore
Quinton Sorrell	C..... Talladega
Cecil Pitts Stowe.....Ph.....	Lee
Benjamin Walton Taylor	Jefferson
Roy Lee Thornton.....Ph.....	Bullock
James Feagin Tompkins....Ag.....	Lee
Alma Cole Tompkins.....	Lee
Conrad Lee Thompson.....	Mobile
James Cooper Usrey.....Ph.....	Jefferson
Fletcher Peavey Whatley..Mech. A.....	Lee
Judson Franklin Webb.....C. E.....	Lee
St. John Wilson.....	Mobile
Walter Rivers Whitman.....Ph.....	Lee
Abner Melvin Windham.....Ph.....	Dale

SUB-FRESHMAN CLASS.

Leslie Sheldon Abercrombie	Macon
Leo Abraham	Montgomery
Thomas Eaton Alexander	Marengo
Ignacio Alfonso	Cuba
Otis DeWitt Alsobrook	Lee
Thomas Henry Bass	Butler

Walter Pendleton Bass	Butler
Conner Benbow	Crenshaw
Robert Leroy Bowling	Washington
Edwin Matherson Bragg	Lee
Edward Crawford	Florida
Charles Edward Crawford	Talladega
Benjamin Harris Cross	Lee
James Lile Cross	Lee
Shelby Montgomery Cullom	Jefferson
Benjamin Cropp Davis	Mobile
John Carter Detwiler	Montgomery
Walter Dean	Cullman
Pedro Echezabal	Cuba
George Hardaway Frazer	Lee
Raphael Garcia	Cuba
Edward Daniel Gates	Dallas
Raymond David Gillespie	Jefferson
Howard Wilson Going	Jefferson
William Minthon Goodger	Perry
Carlos Houghton	Cuba
Frank Brown Johnston	Dallas
Washington Cleveland Jones	Pike
Clyde White Jones	Bibb
Carter Wallace King	Florida
Michael King	Florida
Cornelius Malone	Greene
Ulysses Claud Martin	Dallas
Adalberto Masvidal	Cuba
John Quarterman McCaskill	Florida
Benjamin McMillan	Mobile
Frederick Augustus Miller	Covington
David Minge	Hale
William Leroy Mitchell	Lee
Vernon Moore	Hale
John Robbins Nettles	Monroe

James Hudson Otey	Perry
Thomas Henry Pattison	Lee
William Britain Powledge	Lee
Jesse Henry Pryor	Perry
Claude Hughes Scheiffelin	Mobile
Edward Cooper Smith	Georgia
Guy Clarence Stuart	Washington
Robert Wilson Trimble	Jefferson
Charles Winston Thompson	Macon
Carl Venable	Jefferson
Ross Myron Vest	Jefferson
James Pennington Vickers	Clark
Joaquin Nilo Vila	Cuba
Emique Vila	Cuba
Lee Anderson West	Perry
Willis Carter West	Perry
Dinnis Timothy Williamson	Covington

SUMMARY.

Graduate Students	22
Senior Class	39
Junior Class	62
Sophomore Class	77
Freshman Class	83
Special and Irregular Students	65
<hr/>	
Total in College Classes	348
Sub-Freshman Class	58
<hr/>	
Total	406

NUMBER OF STUDENTS IN EACH SUBJECT OF STUDY.

English	338	Geology	43
History	227	Civil Engineering	29
French	31	Electrical Engineering.	57
German	38	Mechanical Engineer'g.	55
Latin	101	Biology	12
Mental Science	8	Drawing	293
Political Economy....	33	Mechanic Arts.....	267
Mathematics	333	Military Department..	378
Chemistry	156	Mineralogy	21
Chemical Laboratory..	146	Physical Laboratory...	46
Agriculture	97	Physiology	83
Physics	216	Veterinary Science ...	17
Botany	109	Pharmacy	41
Horticulture	17	Bacteriology	15

RESIDENCE BY STATES.

Alabama	333
Georgia	24
Florida	23
Cuba	6
Mississippi	4
Tennessee	4
Louisiana	2
Texas	2
Missouri	1
Michigan	1
Illinois	1
New York	2
Nicaragua	1
Minnesota	1
South Carolina	1

MILITARY ORGANIZATION.

1901-1902.

President,

*W. L. BROWN.

Acting President,

O. D. SMITH.

Commandant,

COL. B. S. PATRICK.

Surgeon,

J. H. DRAKE.

Battalion Staff:

Cadet Captain W. D. WILLIS, Assistant to Commandant.

Cadet First Lieutenant, D. W. PEABODY, Adjutant.

Cadet Captain C. A. COLLINS, Quartermaster.

Cadet First Lieutenant M. KETCHUM, Assistant Adjutant.

Cadet Sergeant W. J. KNIGHT, Sergeant Major.

Cadet Sergeant L. E. THORNTON, Quartermaster Sergeant.

Cadet Captains:

1. J. E. D. Yonge.

3. W. C. Coles.

2. J. B. Garber.

4. H. B. Park.

Cadet First Lieutenants:

1. J. D. Farley.

5. D. T. Herndon.

2. F. J. Houston.

6. B. W. Steele.

3. J. O. Webb.

7. E. A. Washington.

4. W. B. Hamilton.

8. E. I. McBryde.

Cadet Second Lieutenant:

1. E. L. Carroll.

Cadet First Sergeants:

1. H. E. Davis.

3. D. Chipley

2. W. W. Davis.

4. H. M. Yonge.

*Died January 23, 1902.

Cadet Sergeants:

- | | |
|--------------------|---------------------|
| 1. T. J. Dowdell. | 10. G. B. Hill, |
| 2. A. M. Avery. | (Color Sergeant.) |
| 3. P. M. Marshall. | 11. P. Rigney. |
| 4. W. W. Rutland. | 12. R. P. Burke. |
| 5. J. H. Mitchell. | 13. W. M. Turnley. |
| 6. W. L. Thornton. | 14. G. F. Freeman. |
| 7. E. Taylor. | 15. T. A. Caddell. |
| 8. W. W. Dinsmore. | 16. E. C. Haynie. |
| 9. J. D. Walker. | 17. H. F. Troutman. |

Cadet Corporals:

- | | |
|---------------------|----------------------|
| 1. B. L. Shi. | 9. T. Lay. |
| 2. J. H. Childs. | 10. J. S. Chambers. |
| 3. J. McDuffie. | 11. W. S. Going. |
| 4. F. S. Middleton. | 12. C. J. Jackson. |
| 5. W. L. Dumas. | 13. T. P. McElderry. |
| 6. C. S. Joseph. | 14. H. R. Luscher. |
| 7. W. M. Wilson. | 15. A. G. Jones. |
| 8. J. L. Robinson. | 16. W. L. Harwell. |

THE A. P. I. CADET BAND.

M. THOMAS FULLAN, Bandmaster.

J. C. HARPER, Principal Musician.

- | | |
|------------------|-------------------|
| R. C. Armstrong. | H. Hagedorn. |
| H. V. Arnold. | J. D. Hudson. |
| F. C. Atkinson. | A. W. Merkel. |
| A. M. Avery. | G. N. Montgomery. |
| F. G. Bell. | J. P. Rembert. |
| H. Blumberg. | G. C. Sequiera. |
| L. J. Cobb. | S. K. Simon. |
| M. Ellis. | J. R. St. John. |
| V. R. Emrick. | E. R. Taber. |
| G. H. Frazer. | A. L. Thomas. |
| W. L. Harwell. | A. Petrinovich. |
| G. D. Hawkins. | W. V. Weatherby. |

Cadets of the graduating class who were reported to the Adjutant General, U. S. Army, for publication in the "Official Army Register" as having ranked highest in the Military Department:

1889.

- A. St. Dunstan.
B. H. Crenshaw.
A. J. Burr.

1890.

- F. D. Milstead.
J. W. Bivins.
G. W. Emory.

1891.

L. E. Baker.
C. C. Johnson.
F. J. Bivins.

1892.

H. F. Dobbin.
A. L. Jones.
C. L. Brown.

1893.

Joel Dumas.
C. H. Smith.
J. F. Webb.

1894.

C. S. Andrews.
P. P. McKeown.
R. T. Dorsey.

1895.

S. L. Coleman.
H. H. Smith.
L. B. Gammon.

A. L. Alexander.
W. L. Fleming.

1897.

P. G. Clark.
G. M. Holley.
G. N. Mitcham.

1898.

A. H. Clark.
A. McB. Ransom.
John Haralson.

1899.

I. F. McDonnell.
A. H. Feagin.
T. W. Wert.

1900.

E. M. Mason.
H. P. Powell.
C. W. Nixon.

1901.

A. F. Jackson.
J. D. Foy.
P. S. Haley.

1896.

W. M. Williams.

REQUIREMENTS FOR ADMISSION.

All applicants for admission should present testimonials of good moral character, and those who come from other colleges must present certificates of honorable discharge.

To enter the Freshman class the applicant must be not less than fifteen years of age, and should be qualified to pass a satisfactory examination on the following subjects:

1. Geography and History of the United States.

2. English — (a) English grammar as contained in any standard text. (b) An examination upon sentences containing incorrect English. (c) A composition giving evidence of satisfactory proficiency in spelling, punctuation, grammar, and division into paragraphs.

(a) *Reading.* The composition of 1992 will be upon subjects drawn from one or more of the following works in English Literature: (1) Hughes's *Tom Brown at Rugby*; (2) Southey's *Life of Nelson*; (3) Shakespeare's *Julius Caesar*; (4) Longfellow's *Evangeline*; (5) Scott's *Ivanhoe*; (6) Shakespeare's *Merchant of Venice*; (7) Irving's *Sketch Book*; (8) Macaulay's *Essay on Milton*; (9) Scott's *Marmion*; (10) Dickens's *David Copperfield*.

The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of the authors. This part of the examination is intended only to test a general knowledge of the substance of the books.

(b) *Study and Practice.* This part of the examination presupposes the thorough study of the style of the work, and will be upon *Julius Caesar* and the *Essay on Milton*.

Preparation and examination on these works will be necessary before the student is classed as regular in any course.

3. Mathematics—(a) Arithmetic, including fundamental operations; common and decimal fractions; denominate numbers; the metric system; percentage, including interest and discount; proportion. (b) Algebra to quadratic equations; especial preparation is urged in *fundamental operations, factoring, multiples, divisors and fractions*; two books of geometry.

4. Those applicants who desire to continue the study of Latin should be qualified to pass a satisfactory examination in Latin grammar and the first two books of Caesar, in addition to the above subjects.

In pronouncing Latin it is recommended that \bar{a} be pronounced as in *father*, \tilde{a} as the *a* in *Cuba*; \bar{e} as in *prey*; \tilde{e} as in *men*; \tilde{i} as in *machine*, \bar{i} as in *cigar*; \bar{o} as in *old*; \tilde{o} as in *obey*; \bar{u} as in *rule*; \tilde{u} as in *full*; *j* as *y* in *yard*; *c* always as *k* in *king*; *g* always as *g* in *get*.

For admission to the higher classes, students should be prepared to stand satisfactory examination in all of the studies of the lower classes, as shown in the course of study. Students applying for admission to the sophomore class will be examined in mathematics through quadratic equations and logarithms in Algebra, and on seven books in geometry. Where opportunity has not been offered to pursue special studies required at this College, the system of equivalents will be adopted, and studies which denote an equivalent amount of discipline and training will be accepted as satisfactory. But if not prepared to pass an examination in history and chemistry at the time of application, the applicant will be required before graduation to pass a satisfactory examination on these subjects.

It is absolutely essential that students who hope to succeed should be well grounded in Arithmetic, Algebra, and Geometry.

A working knowledge of the metric system should also be obtained.

ADMISSION ON CERTIFICATE.

Applicants will be admitted without examination on presenting a certificate from any of the CERTIFICATE SCHOOLS named herein.

The following educational institutions having made application to be correlated to this College and having presented an approved course of study, are hereby declared to be CERTIFICATE SCHOOLS, and are granted the privilege set forth in the following:

"Students from certificate schools will be admitted to the freshman class *without examination* upon the certificate of the president or principal showing definitely that such students have completed satisfactorily all the studies required for admission, as stated in the catalogue and are otherwise admissible."

The privilege of admitting students of the Sophomore class on certificate will be granted only to those approved schools that have had a continuous existence for five years or more and have previously had pupils admitted to that class without conditions.

The following form of certificate will be used:

I hereby certify that A....., B.....has attended the (*name the school or academy*) for.....years and has studied the following subjects:

in History.....(*name the books*)
 in English.....(*name the books*)
 in Algebra.....(*state amount accomplished*)
 in Geometry.....(*state amount accomplished*)
 in Latin.....(*state books read*)
 and having passed a satisfactory examination on these subjects as required in the Catalogue for admission to theclass,
 I recommend him for the same.

Admission by certificate is regarded as provisional.

That is, though admitted to the class for which the certificate calls, the applicant may be required to take special examination in any subject in which his preparation proves unsatisfactory, or, after a fair trial, he may be dropped to a lower class, if he fails to maintain standing in the class to which he may be admitted.

CERTIFICATE SCHOOLS.

University Military School, Mobile	J. D. Wright.
Verner Military Institute, Tuscaloosa.....	W. H. Verner.
University School, Montgomery.....	J. M. Starke.
Mt. Willing High School, Mt. Willing.....	J. Knight.
State Normal School, Jacksonville.....	C. W. Daugette.
Male Academy, Huntsville.....	F. Puryear.
Furman Academy, Livingston	L. A. Cockrell.
High School, Opelika	J. M. Smallwood.
University Military School, Clanton	E. Y. McMorries.
Eighth District Agricultural School, Athens.....	M. K. Clements.
Sixth District Agricultural School, Hamilton.....	G. A. Holley.
Eutaw Male Academy, Eutaw	H. C. Horton.
Boys' High School, Anniston	H. C. Gunnels.
Taylor's School, Birmingham	W. P. Taylor.
University High School, Birmingham..	I. J. White, M. B. Dickinson.
Fourth District Agricultural School, Sylacauga.....	A. G. Seay.
Gaylesville High School	John R. Ray.
Carrollton Academy	L. V. Rosser.
Ninth District Agricultural School, Blountsville....	J. A. B. Lovett.
Gadsden High School	I. W. Hill.
Boyd High School, Ramer	B. H. Boyd.
Dadeville High School	J. D. Lane.
Prattville High School	A. W. Holstun.
Eufaula High School	F. L. McCoy.
Union Springs High School	J. M. Sanders.
Montgomery High School	C. L. Floyd.
Calera Academy	C. C. Slaton.
Southern Agricultural School, Abbeville	J. B. Murphy.
Barnes's School, Montgomery	E. R. Barnes.
Jackson Agricultural School	J. B. Murphy.
Spring Lake School	W. C. Griggs.
Pensacola Classical School	H. C. Armstrong.
Eufaula District Academy	R. E. Brooks.

ADMISSION OF YOUNG WOMEN.

The privilege of becoming students in this college is granted by the Trustees to young women of mature mind and character, on the following conditions:

The applicant must be seventeen years of age, and if a candidate for a degree, be able to pass a satisfactory examination in each of the four subjects as named below.

If the applicant is a candidate for admission as a special or irregular student, she must be able to pass a satisfactory examination in two of the subjects named, and may be admitted at an age less than seventeen, with a resident of Auburn acting as guardian, if application is approved by the Faculty.

(a) In English—Proficiency in spelling and punctuation; Grammar (Lockwood-Whitney); Rhetoric (Lockwood's Lessons and Carpenter's Rhetoric); Scudder's Masterpieces of American Literature; Syie's From Milton to Tennyson.

For requirements in reading in literature see page 41.

(b) In History—Macy's Our Government; Chambers's History of the United States; Myers's General History.

(c) In Mathematics—Arithmetic; Algebra, including quadratic equations, logarithms and series; Plane and Solid Geometry; Plane and Spherical Trigonometry, as in Wentworth.

(d) In Latin—Grammar, including the forms and syntax; Jones's Latin Prose Composition; translation of selections from Cæsar, Nepos, Virgil, Cicero's Orations, Cicero's Letters, or the equivalent.

The equivalents of these subjects, as in above text-books, may be substituted.

Botany will constitute a required part of the general course for young women who are candidates for a degree.

When admitted, upon complying with the conditions above stated, they may enter upon the study of any subject taught in the College and join any class, for which, upon examination, they may be found qualified. The only condition imposed will be that they engage in earnest study, and attend the exercises regularly. They will board in the town with private families and attend college only at the hours of their exercises.

ENTRANCE EXAMINATIONS.

Entrance examinations will be held on Wednesday, the 10th of September, the day on which the session opens. Candidates will also be examined during the session, when application is made for admission.

Applicants who are not prepared to stand the entrance examinations for full admission to the freshman class are admitted to the sub-college department, provided they are fifteen years of age, and are found after examination qualified to profit by the instruction given. Those who, after admission, are inattentive to their studies, and neglectful of their duties will be required to withdraw, but those who are studious and make sufficient progress will be advanced to full admission to the freshman class when they are qualified to pass satisfactorily the required examinations.

Students, upon their arrival at Auburn, will report immediately to the President. No student will be admitted to a recitation in any class previous to matriculation.

NUMBER OF EXERCISES REQUIRED.

All students are required to have not less than fifteen recitations per week, or their equivalent, in addition to the exercises in laboratory work, drawing and military drill. These additional exercises occupy not less than twelve hours per week, and in all give twenty-seven to thirty hours per week required in college exercises.

SPECIAL AND IRREGULAR STUDENTS.

The privilege of electing studies in the lower classes is not granted to young students nor to their parents.

The Faculty will assign a student, on admission, to that class of a prescribed course for which he is qualified; and for special reasons, approved by the Faculty, he may be permitted to become irregular.

Students qualified to prosecute the studies of the junior class, and those over twenty-one years of age that are not candidates for a degree, are permitted to take, with the advice of the Faculty, the subjects of study for which they may be qualified.

For an applicant to enter upon the study of Electrical and Mechanical Engineering as a special or irregular student, he must have studied algebra through quadratics and logarithms, plane geometry, and plane trigonometry.

The professor in charge of a department will decide by examination whether a special student is prepared for admission to his class.

A student who does not take all the studies in a class of one of the degree courses, as prescribed in the catalogue, and is permitted to take an irregular course, will be assigned to a member of the Faculty, who will act as his special adviser, and when his course of study has been approved by the Faculty, no other change will be permitted without the endorsement of his adviser.

Regular students who fail to pass satisfactory final examinations in any one study become irregular students. They will be classed as regular students pursuing a course for a degree, whenever they can pass the examinations in those subjects in which they were found deficient.

Students, candidates for a degree, who are not in full standing in all the prescribed studies of a class, rank in the military department with that class in which they have the greatest number of studies, and their names are so placed in the catalogue.

ADMISSION TO HIGHER CLASSES.

At the beginning of each term a student in the sub-freshman class may, on application approved by the Faculty, be examined for admission to the freshman class in history, English, mathematics, and be admitted to the freshman class in that subject only.

Students who have completed satisfactorily all the studies of the sophomore class, as prescribed in the catalogue, in any one of the regular degree courses, can enter, without condition, the junior class in any course, except in the general course, or the course in pharmacy, in which Latin is required.

Students who are admitted to the junior class from other institutions, on examinations in English, Latin, and mathematics, and who have not completed all the studies of the sophomore class, in order to graduate, will be required to complete the course in chemistry and history as taught in the sophomore class.

COURSES OF INSTRUCTION.

The courses of study include the Physical, Chemical, and Natural Sciences, with their applications; Agriculture; Biology; Mechanics, Astronomy, Mathematics; Drawing; Civil, Electrical, and Mechanical Engineering; Physiology and Veterinary Science, Pharmacy; English, French, German and Latin Languages; History, Political Economy; Mental and Moral Sciences.

The studies are arranged in regular courses so as to offer liberal and practical education as a preparation for the active pursuits of life.

There are six degree courses for undergraduates, each leading to the degree of Bachelor of Science, (B. Sc.) and requiring four years for its completion.

- I. COURSE IN CHEMISTRY AND AGRICULTURE.
- II. COURSE IN CIVIL ENGINEERING.
- III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.
- IV. GENERAL COURSE.
- V. COURSE IN PHARMACY.
- VI. COURSE IN CHEMISTRY AND METALLURGY.

There are also three partial courses, each requiring two years for its completion:

- VII. TWO-YEAR COURSE IN AGRICULTURE.
- VIII. TWO-YEAR COURSE IN MECHANIC ARTS.
- IX. TWO-YEAR COURSE IN PHARMACY.

Course I. includes theoretical and practical instruction in those branches that relate to chemistry and agriculture, and is especially adapted to those who propose to devote themselves to agriculture or chemical pursuits.

Course II. includes the principles and applications of the sciences that directly relate to civil engineering,

and is adapted to those who expect to enter that profession.

Course III. includes, besides the general principles and applications of the sciences, a special course in the applications of electricity and mechanics, and is arranged for the profession of electrical and mechanical engineering.

Course IV. has been arranged to give a general and less technical education in subjects of science and language to meet the wants of those students who have selected no definite vocation in life, as well as of those who propose ultimately to engage in teaching or in some commercial or professional business.

Course V. includes, besides the general education of course IV. in the lower classes, a special course in pharmacy and chemistry, and is adapted to those who expect to become pharmacists, manufacturing chemists, or to enter upon the study of medicine.

Course VI. provides for thorough theoretical and practical instruction in pure and technical chemistry and metallurgy, and in the scientific branches relating thereto. Students taking this course also pursue the study of German and French during the Junior and Senior years, and are thus prepared to utilize for reference the scientific journals and works published in those languages.

Courses VII. VIII. IX. have been arranged for the benefit of those students who, for reasons satisfactory to themselves, are unable to continue at college four years and to take one of the regular degree courses.

A student who completes satisfactorily all the work of the senior class in a department, including the laboratory work, will be awarded a certificate of proficiency in said subject.

Students who complete either of the two-year courses will, on

passing a satisfactory examination, receive certificates indicating their attainments.

No degree or certificate of proficiency will be given in any course unless the applicant has passed a satisfactory examination in elementary English. Every candidate for a degree will be required to stand this special examination during the second term of the Senior year.

Declamations and themes or orations are required of all regular students pursuing courses leading to a degree.

POST-GRADUATE COURSES.

A more extended post-graduate course of study may be taken by a graduate of this College or of any other institution of equal grade. The completion of a course which leads to a post-graduate degree of Master of Science requires one year's residence at the College, spent in the satisfactory prosecution of a course of study, with such laboratory work as may be approved by the Faculty.

The candidate must also present to the Faculty a satisfactory thesis showing independent investigation upon some subject pertaining to his course, and must pass an examination, at the close of each term, on the course of study prescribed, in which he must attain a grade of 75 per cent. The examination is written, and also oral in the presence of the Faculty.

The subject of the thesis must be submitted to the Faculty for approval prior to January 1st, and the thesis given to the professor by May 1st.

Applicants for a post-graduate degree and special students in post-senior studies are subject to the general regulations as other students, and pay the same fees, but are exempt from all military duty.

The following courses are prescribed for the degree named:

1. *Master of Science*.—Studies in three departments, in two of which the candidate must have previously completed the full course of the senior class; or in special cases, with the approval of the Faculty, a student may devote his full time to work in two departments, in each of which he has completed the full senior course.
2. *Master of Science in Pharmacy*.—Pharmacy and Chemistry.
3. *Master of Science in Civil Engineering*.—Civil Engineering, Mathematics, Analytical Mechanics.

4. *Master of Science in Electrical and Mechanical Engineering.*—Electrical Engineering, Mechanical Engineering.

5. *Master of Science in Mining Engineering.*—Students who have receive the degree of B. Sc. in engineering, civil, or electrical and mechanical, or in the course of chemistry and metallurgy, or who have prosecuted an equivalent course of study, can enter upon a special course of mining engineering, which includes the following subjects of study:

Industrial Chemistry, Analytic Chemistry, Assaying, Reduction of Ores, Mineralogy, Economic Geology, with practical work in the field, Mining Machinery with the applications of steam and electricity to the various operations connected with the exploitation of mines.

The student, if a candidate for a degree, will also be required to prosecute the necessary studies in that course of engineering in which he has not graduated. This course of study will be under the charge of the professors in the different engineering departments, the professor of Chemistry, and the professor of Mineralogy and Geology.

Special Students in Post-Senior Studies.—Students who are not graduates, but are qualified in special subjects to prosecute post-senior studies, and desire to prepare themselves more thoroughly for professional or special work in any one of the departments of engineering, in chemistry or pharmacy, veterinary science, or other subjects in which instruction is given, may, when qualified, with approval of the Faculty, enter this higher department of study and have all the privileges of post-graduate students.

A certificate of proficiency will be given when any one subject of a post-graduate course is satisfactorily completed.

Two degrees will not be given the same year.

PROFESSIONAL DEGREES.

The professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer, Mining Engineer, or Pharmaceutical Chemist will be given two years after receiving the degree of Master of Science, provided the intervening time of two years has been spent in a responsible position in practical engineering work in that department in which he received the degree of Master of Science, or in practical pharmacy, and an approved thesis is submitted to the Faculty, with a report of the character of the work done.

SPECIAL ONE-YEAR COURSE IN AGRICULTURE.

Young men over twenty-one years of age who desire to study agriculture will be permitted, without examination, to enter any class under the professor of agriculture, and will be excused from reciting

in any other class, from military duty, and from all other college duties; but will be under the general college regulations, and will be required to have their time fully occupied.

They may attend the lectures in agriculture in all the classes and engage in the practical work at the experiment station, in the field, stock-yard, dairy, garden, orchard, vineyard, etc., and may thus, in one year, acquire valuable practical knowledge of scientific agriculture.

PHOTOGRAPHY.

During the session there will be given by Professor Mell a course of twelve lectures on photography. This course will be elective, and the instruction will be open to any student that may desire to learn how to make pictures. It will be necessary for each student to provide himself with an outfit that will cost from \$11.50 to \$16.00.

LABORATORY INSTRUCTION.

Laboratory instruction constitutes an important feature in the courses of education provided for the students of this Institute, and as far as possible all students are required to enter upon laboratory work in some one department.

Laboratory instruction and practical work are given in the following departments:

- I. CHEMISTRY.
- II. CIVIL ENGINEERING, FIELD WORK, SURVEYING, ETC.
- III. AGRICULTURE.
- IV. BOTANY.
- V. MINERALOGY.
- VI. BIOLOGY.
- VII. TECHNICAL DRAWING.
- VIII. MECHANIC ARTS.
- IX. PHYSICS.
- X. ELECTRICAL ENGINEERING.
- XI. MECHANICAL ENGINEERING.
- XII. PHYSIOLOGY AND VETERINARY SCIENCE.
- XIII. PHARMACY.

NOTE.—Special work in English or History may be taken by students in the general course as a substitute for laboratory work.

I. COURSE IN CHEMISTRY AND AGRICULTURE.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture.	2. Agriculture.	2. Agriculture (b).
3. Drawing.	3. Drawing.	3. Drawing.
2. Physiology.	2. Physiology.	2. Physiology.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Agriculture.	2. Agriculture.	2. Horticulture.
4. Botany (Lab'y.)	4. Botany (Lab'y.)	4. Botany (Lab'y.)
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Lab'y.	2. Clinical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature.	2. Political Economy.	2. Political Economy.
2. Mental Science (d).	2. Mental Science (d).	2. Mental Science (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
5. Biology.	5. Biology.	5. Biology.
2. Agricultural Chemis.	2. Agricultural Chemis.	2. Agricultural Chemis.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
2. Clinical Lab'y.	2. Clinical Lab'y.	2. Clinical Lab'y.

(a) Begins March 1st.

(b) Also Practical Agriculture.

(c) Begins Feb. 15th.

(d) French or German may be substituted.

II. COURSE IN CIVIL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	3. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. General Chemistry.	3. General Chemistry.	3. General Chemistry.
2. Agriculture (b).	2. Agriculture (b).	2. Agriculture (b).
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English, French or German.	3. English, French or German.	3. English, French or German.
3. Physics.	3. Physics.	3. Physics.
5. Mathematics.	5. Mathematics.	5. Mathematics.
5. Civil Engineering.	5. Civil Engineering.	5. Civil Engineering.
5. Drawing.	5. Drawing.	5. Drawing.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).	6. Lab'y. Mechanic Arts (c).
1. Field Work, Engineering.	1. Field Work, Engineering.	1. Field Work, Engineering.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English Literature, (d).	2. Political Economy, (d).	2. Political Economy, (d).
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. Mathematics.	3. Mathematics.	3. Mathematics.

(a) Begins March 1st.

(b) For Agriculture may be substituted Physical Laboratory.

(c) Or Mineralogy.

(d) For Eng. Lit. and Pol. Econ. may be substituted for French or German.

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|--------------------------|--------------------------|--------------------------|
| 5. Civil Engineering. | 5. Civil Engineering. | 5. Civil Engineering. |
| 1. Drawing. | 5. Drawing. | 5. Drawing. |
| 1. Military Science. | 1. Military Science. | 1. Military Science. |
| 4. Mech. Eng., Lab'y. | 4. Mech. Eng., Lab'y. | 4. Mech. Eng., Lab'y. |
| Field Work, Engineering. | Field Work, Engineering. | Field Work, Engineering. |

III. COURSE IN ELECTRICAL AND MECHANICAL ENGINEERING.

The numerals opposite the subjects indicate the number of hours per week. In Freshman and Sophomore classes the same studies are prescribed as in Course II in Civil Engineering.

JUNIOR CLASS.

- | <i>First Term.</i> | <i>Second Term.</i> | <i>Third Term.</i> |
|-------------------------------|-------------------------------|-------------------------------|
| 3. English, French or German. | 3. English, French or German. | 3. English, French or German. |
| 3. Physics. | 3. Physics. | 3. Physics. |
| 5. Mathematics. | 5. Mathematics. | 5. Mathematics. |
| 4. Electrical Engineering. | 4. Electrical Engineering. | 4. Electrical Engineering. |
| 3. Mechanical Engineering. | 3. Mechanical Engineering. | 3. Mechanical Engineering. |
| 4. Mechanical Drawing. | 4. Mechanical Drawing. | 4. Mechanical Drawing. |
| 4. Electrical Lab'y. | 4. Electrical Lab'y. | 4. Electrical Lab'y. |
| 6. Mechanic Art Lab'y. | 6. Mechanic Art Lab'y. | 6. Mechanic Art Lab'y. |
| 1. Military Tactics. | 1. Military Tactics. | 1. Military Tactics. |
| 3. Military Drill. | 3. Military Drill. | 3. Military Drill. |

SENIOR CLASS.

- | <i>First Term.</i> | <i>Second Term.</i> | <i>Third Term.</i> |
|----------------------------|----------------------------|----------------------------|
| 2. Eng. Literature, (a). | 2. Political Economy, (a). | 2. Political Economy, (a). |
| 2. Physics. | 2. Astronomy. | 2. Astronomy. |
| 2. Geology. | 2. Geology. | 2. Geology. |
| 3. Mathematics. | 3. Mathematics. | 3. Mathematics. |
| 5. Electrical Engineering. | 5. Electrical Engineering. | 5. Electrical Engineering. |
| 5. Mechanical Engineering. | 5. Mechanical Engineering. | 5. Mechanical Engineering. |
| 2. Electrical Designing. | 2. Electrical Designing. | 2. Electrical Designing. |
| 6. Electrical Lab'y. | 6. Electrical Lab'y. | 6. Electrical Lab'y. |
| 4. Mech. Eng. Lab'y. | 4. Mech. Eng. Lab'y. | 4. Mech. Eng. Lab'y. |
| 1. Military Science. | 1. Military Science. | 1. Military Science. |

(a) French or German may be substituted.

IV. CHEMISTRY AND METALLURGY.

The numerals opposite the subjects indicate the number of hours per week. In the Freshman class and Sophomore classes the same studies are prescribed as in either course I in Agriculture and Chemistry or in course V in General Course.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Industrial Chemistry.	3. Industrial Chemistry.	3. Industrial Chemistry.
2. Organic Chemistry.	2. Organic Chemistry.	2. Organic Chemistry.
3. German.	3. German.	3. German.
4.*Mineralogy (Lab'y.)	4. Mineralogy (Lab'y.)	4. Mineralogy (Lab'y.)
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English and Literature.	2. Political Economy.	2. Political Economy.
2. Physics.	2. Physics.	2. Astronomy.
3. German.	3. German.	3. German.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
2. Metallurgy and Engineering Chem.	2. Metallurgy and Engineering Chem.	2. Metallurgy and Engineering Chem.
1. Analytical Chemistry.	1. Analytical Chemistry.	1. Analytical Chemistry.
1. Military Science.	1. Military Science.	1. Military Science.
9. Chemical Lab'y.	9. Chemical Lab'y.	9. Chemical Lab'y.

V. GENERAL COURSE.

The numbers opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
3. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	2. Agriculture.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	3. Drawing.
3. Military Drill.	3. Military Drill.	6. Mechanic Art Lab'y.
		3. Military Drill.

*Mechanic Art. Lab. may be substituted.

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Gen'l. Chemistry.	3. Gen'l. Chemistry.	3. Gen'l. Chemistry.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
3. Physics.	3. Physics.	3. Physics.
3. Mathematics.	3. Mathematics.	3. Mathematics.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
3. Latin.	3. Latin.	3. Latin.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
2. English.	2. Pol. Econ. (c).	2. Political Economy.
2. Mental Science.	2. Mental Science.	2. Mental Science.
2. Physics.	2. Astronomy.	2. Astronomy.
2. Geology.	2. Geology.	2. Geology.
3. French.	3. French.	3. French.
3. German.	3. German.	3. German.
2. Latin.	2. Latin.	2. Latin.
1. Military Science.	1. Military Science.	1. Military Science.
6. Lab'y. Work (b).	6. Lab'y. Work (b).	6. Lab'y. Work (b).

VI. COURSE IN PHARMACY.

The numerals opposite the subjects indicate the number of hours per week.

FRESHMAN CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
2. History.	2. History.	3. History.
5. Latin.	5. Latin.	3. Latin.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	2. Agriculture.
3. Military Drill.	3. Military Drill.	6. Mechanic Arts.
		3. Military Drill.

(a) Begins March 1st. (b) The student may elect the laboratory of any department for which he may be qualified. (c) Begins Feb. 15

SOPHOMORE CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Latin.	5. Latin.	5. Latin.
3. History.	3. History.	3. Botany (a).
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Gen'l Chemistry.	3. Gen'l Chemistry.	3. Gen'l Chemistry.
2. Physiology.	2. Physiology.	2. Physiology.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

JUNIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. Physics.	3. Physics.	3. Physics.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Chemical Lab'y.
4. Botanical Lab'y.	4. Botanical Lab'y.	4. Botanical Lab'y.
3. English (b).	3. English (b).	3. English (b).
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
9. Pharmaceutical Lab.	9. Pharmaceutical Lab.	9. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Tactics.	1. Military Tactics.	1. Military Tactics.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SENIOR CLASS.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Biology.	5. Biology.	3. Biology.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
12. Pharmaceutical Lab.	12. Pharmaceutical Lab.	12. Pharmaceutical Lab.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
1. Military Science.	1. Military Science.	1. Military Science.
3. Materia Medica.	5. Materia Medica.	3. Bacteriology.

VII. TWO-YEAR COURSE IN MECHANIC ARTS.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.	6. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Physics.	3. Physics.	3. Physics.
3. Drawing.	3. Drawing.	3. Drawing.
12. Mechanic Art Lab.	12. Mechanic Art Lab.	12. Mechanic Art Lab.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) Begins March 1st. (b) French or German may be substituted.

VIII. TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. English.	5. English.	5. English.
2. History.	2. History.	2. History.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Elementary Physics.	3. Elementary Physics.	2. Agriculture.
3. Drawing.	3. Drawing.	3. Drawing.
4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.	4. Mechanic Art Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.
2. Practical Agriculture.	2. Practical Agriculture.	2. Practical Agriculture.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. English.	3. English.	3. English.
5. Mathematics.	5. Mathematics.	5. Mathematics.
3. Gen'l. Chemistry.	3. Gen'l. Chemistry.	3. Gen'l. Chemistry.
4. Agriculture.	4. Agriculture.	4. Agriculture.
2. Physiology.	2. Physiology.	2. Physiology.
2. Veterinary Science.	2. Veterinary Science.	2. Veterinary Science.
12. Practical Agriculture.	12. Practical Agriculture.	12. Practical Agriculture.
3. Military Drill.	3. Military Drill.	3. Military Drill.

IX. TWO-YEAR COURSE IN PHARMACY.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
3. Gen'l. Chemistry.	3. Gen'l. Chemistry.	3. Gen'l. Chemistry.
2. Chemical Lab'y.	2. Chemical Lab'y.	2. Chemical Lab'y.
3. English.	3. English.	3. Botany.
2. Physiology.	2. Physiology.	2. Physiology.
3. Pharmacy.	3. Pharmacy.	3. Pharmacy.
4. Pharmacognosy.	4. Pharmacognosy.	4. Pharmacognosy.
6. Mechanic Art Lab'y (a).	6. Mechanic Art Lab'y (a).	6. Mechanic Art Lab'y (a).
3. Military Drill.	3. Military Drill.	3. Military Drill.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>	<i>Third Term.</i>
5. Pharmacy.	5. Pharmacy.	5. Pharmacy.
5. Pharmacognosy.	5. Pharmacognosy.	5. Pharmacognosy.
12. Pharmaceutical Lab'y.	12. Pharmaceutical Lab'y.	12. Pharmaceutical Lab'y.
6. Chemical Lab'y.	6. Chemical Lab'y.	6. Toxicology.
3. Materia Medica.	3. Materia Medica.	6. Bacteriology.
6. Botanical Lab'y.	6. Botanical Lab'y.	3. Botanical Lab'y.
3. Military Drill.	3. Military Drill.	3. Military Drill.

(a) or Physical Laboratory.

SCHEDULE OF EXERCISES.

HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
I. 8-9	4. Algebra. 3. Latin. 2. Pharmacy. 2. Mec. Engineer'g. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Biology. 1. German.	1. Geometry. 3. Agriculture. 3. Latin. 2. German. 2. Botany. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. Mental Science.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Vet. Science. 2. Mec. Engineer'g. 1. Biology. 1 and 2. Drawing. 1. Elec. Engineer'g. 1. German.	4. Geometry. 3. Latin. 2. German. 2. Botany. 2. Mec. Engineer'g. 1 and 2. Drawing. 1. Mental Science. 1. Elec. Engineer'g.	4. Algebra. 3. Latin. 2. Pharmacy. 2. Veterinary Sci. 1 and 2. Drawing. 1. Biology. 1. Elec. Engineer'g. 1. German.	Exercises in Education.
II. 9-10	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Latin. 1. Calculus. 1. Biology (Lab.)	4. History. 3. Physiology. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Botany. 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Elec. Engineer'g. 2. Latin. 1. Calculus. 1. Vet. Science. 1. Pharmacognosy.	4. History. 3. Agriculture. 2. Civ. Engineer'g. 2. Botany. 2. Elec. Engineer'g. 1. Chemistry. 1. French.	4. English. 3. Chemistry. 2. Civ. Engineer'g. 2. Latin. 2. Mec. Drawing. 1. Calculus. 1. Vet. Science.	Military Drill.
III. 10-11	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Biology (Lab.) 1. Latin. 1. Mec. Engineer'g.	4. English. 3. Botany, (2, 3.) 3. History (1, 2.) 2. French. 2. Mec. Drawing. 1. Machine Design. 1. Pharmacognosy. 1. Biology. 1. Civ. Engineer'g. 1. Mec. Engineer'g.	3. English. 2. Physics. 1. Latin. 1. Civil Engineer'g. 1. Biology. 1. Mec. Engineer'g.	4. English. 3. History (1, 2.) 2. Botany, (2, 3., 2. French. 1. Civ. Engineer'g. 1. Mec. Engineer'g. 1. Machine Design. 1. Pharmacognosy.	3. English. 2. Physics. 1. Civ. Engineer'g. 1. Pharmacognosy. 4. History (3.) 1. Mec. Engineer'g.	Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineer'g.

SCHEDULE OF EXERCISES—Continued.

HOURS	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
IV. 11-12	4. Physics. 4. Mechanic Arts. 4. Agriculture (3.) 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3. Drawing. 2. Horticulture. 2. Mathematics. 2. Chemistry Agr. 2. Pharmacognosy. 1. French. 1. Physics.	4. Physics (1, 2.) 4. Latin (3.) 4. Mechanic Arts. 3. History (1, 2.) 3. Botany (2, 3.) 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. English (1, 2.) 1. Pol. Econ. (2, 3.)	4. Latin. 3. Physiology. 2. Horticulture. 2. Mathematics. 2. Chemistry Agr. 1. French. 1. Physics.	4. Physics (1, 2.) 4. Mechanic Arts. 4. Agriculture (3.) 4. Latin (1, 2.) 3. Drawing. 2. Mathematics. 2. Chemistry. 2. Pharmacognosy. 1. Military Science.	1. Pharmaceutical Lab'y. 3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineer'g.
V. 12-1	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. English. 1. Elec. Design'g. 1. French. 1. Pharmacy. 1. Eng. Chem. and Metallurgy.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. German. 2. Anal. Chemist'y. 1. Pharmacy. 1. Eng. Chem. and Metallurgy. 1. Elec. Designing.	3. Mathematics. 2. English. 1. Geology. 1. Pharmacy.	4. Drawing. 4. Mechanic Arts. 3. Mathematics. 2. Military Tactics. 1. Elec. Designing. 1. Pharmacy.	3. Mechanic Arts. Chemical Lab'y. Electrical Lab'y. Physical Lab'y. Veterinary Clinics. Field Engineering.
P. M. VI, VII 2-4	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Lab. Chemistry. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Elec. Lab. Work. Physical Lab'y.	3. Mechanic Arts. 2. Mineralogical Lab. Military Drill (*) 1. Mech. Lab'y. Elec. Lab'y. Work. 1 & 2 History.	4. Mechanic Arts. 3. Field Work Agr. 1 & 2 Lab. Chem. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Ex'cis in Elocut'n. Elec. Lab. Work. Physical Lab'y.	3. Mechanic Arts. 2. Mineralogical Lab. Military Drill (*). 1. Mech. Lab'y. Elec. Lab'y. Work. 1 & 2 History.	4. Mechanic Arts. 3. Field Work Agr. 2. French. 1 & 2 Lab. Chem. 1 & 2 Field Work. Engineering. 1 & 2 Mach. Work. Ex'cis in Elocut'n. Elec. Lab. Work. Physical Lab'y.	

Chapel services daily at 7:45 a. m. * From 4:30 to 5:30 p. m.

Numbers prefixed denote classes—1 denotes senior, 2 junior, etc. Numbers affixed—(1), (2), (3), denote terms.

DEPARTMENTS OF INSTRUCTION.

MATHEMATICS.

PROFESSOR SMITH,

ASSOCIATE PROFESSOR CRENSHAW.

INSTRUCTOR PATRICK.

The subjects taught in the different classes in this department are as follows:

FRESHMAN CLASS. Algebra through quadratic equations and series, geometry (seven books Wentworth), original solutions of exercises.

SOPHOMORE CLASS. Solid geometry, plane and spherical trigonometry, surveying, mensuration.

JUNIOR CLASS. Analytical geometry, descriptive geometry, differential calculus.

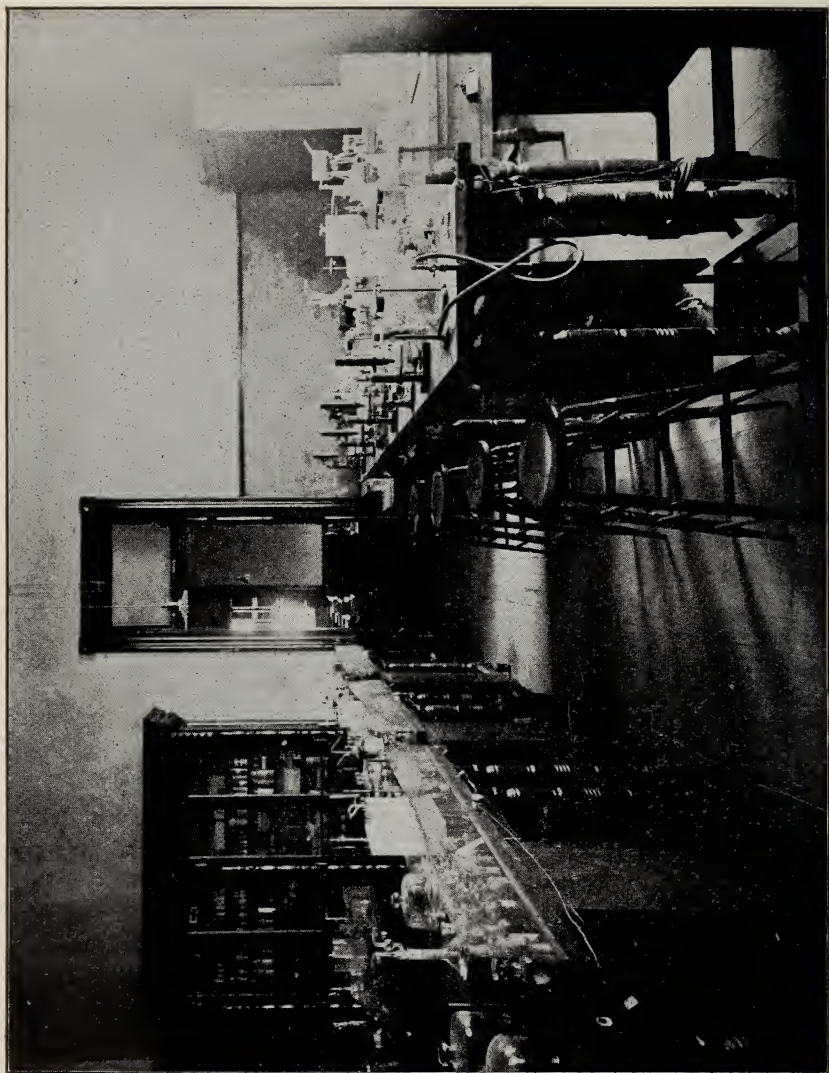
SENIOR CLASS. Differential and integral calculus.

Two objects are sought to be obtained: First, mental discipline; second, a thorough knowledge of the principles of pure mathematics and their practical applications.

Theoretical and practical instruction is given to the sophomore class in land surveying, mapping, plotting and computing areas, etc., also in the theory, adjustment and use of instruments.

The class, in sections of six or eight, devote three afternoons a week during the second and third terms to field practice.

The completion of this course, common to all students, lays the foundation for the pure and applied mathematics of the mechanical and engineering courses.



BOTANICAL LABORATORY.

Analytical geometry, descriptive geometry, and calculus are pursued in the engineering courses. Especial attention is given to their practical applications.

During the entire course, instruction in text-books is supplemented by lectures. Solutions of original practical problems are required of the student, to make him familiar with the application of the principles and formulas.

TEXT-BOOKS.

Wentworth's Algebra, Wentworth's Geometry, Wentworth's Trigonometry, Robbins' Surveying, Wentworth's Analytical Geometry, Faunce's Descriptive Geometry, Taylor's Calculus, Johnson's Differential Equations, Osborne's Problems, Peck's Determinants.

GEOLOGY AND BOTANY.

PROFESSOR MELL.

Geology.—This subject is studied in the senior class, and extends through the entire session. Special attention is given to the geology of Alabama, and many illustrations are drawn from the coal and iron fields and other natural deposits of minerals in the State. Mineral springs, the origin of ore deposits, and the geological relations of soils are carefully studied.

There is also a course of advanced work in practical geology for post-graduate students. This subject is pursued by applicants for the degrees of master of science and mining engineer.

The junior classes in civil and mining engineering, chemistry and metallurgy, study mineralogy through the entire session. This work consists of a thorough course in blow-pipe analysis of the ordinary minerals, and lectures upon crystallography, with instruction how to measure crystals and determine the physical con-

stants of minerals. An effort is made to familiarize the student with all the economic ores and the rocks entering into the composition of soils.

Botany.—The students of the sophomore class begin the study of botany the first of March, and continue it through the remainder of the session. Careful experiments are conducted in the lecture room explaining the formation and germination of seed, the growth into the mature plant, and the various functions performed by the plant in its development. Each student is required to keep careful notes illustrated with drawings of the various organs of the plant under examination. A limited amount of work is done in classification and nomenclature.

In the junior class, in the course of chemistry and agriculture, two terms are devoted to systematic and structural botany, and to advanced laboratory work with the microscope in the preparations of specimens showing plant structure; this work is sufficient to familiarize the students with the methods of plant building and cellular organization. Excellent microscopes of the most improved patterns, and all necessary chemicals and apparatus for preparing and mounting vegetable tissues, are used by the students.

The third term is devoted to the study of physiology of plants in order to understand the functions of the various organs after completion of the work in the histological laboratory.

FACILITIES FOR WORK.

Geology.—The department is equipped with models of Mount Shasta, the earthquake of 1887 in Japan, glass crystals for teaching crystallography; charts and maps of the geology of America and Europe; Colt's lantern complete with oil, oxy-hydrogen and automatic electric lamps; a large assortment of fine lantern slides representing geological formations in this country and abroad; well

equipped mineralogical laboratory for thirty students, supplied with a collection of representative minerals, and models of crystals.

Botany.—The facilities for teaching this subject are as follows: Auzoux's elastic models of seeds and flowers; a large collection of pressed plants of Alabama and other sections mounted and catalogued. There is also a laboratory for practical work in botany equipped with slate-topped tables for twenty-eight students; dissecting and compound microscopes of Zeiss, Leitz, and Bausch & Lomb; projection microscopic apparatus; microtomes by King and Bausch & Lomb; all the necessary glassware and smaller dissecting instruments required in a well equipped laboratory. The Zeiss compound microscope used by the professor for experiment work in connection with the station is supplied with Abbe's illuminating apparatus, slide changers, Abbe's camera lucida, polarizers, apochromatic objectives (16mm, 8 mm, 4mm, and homogeneous immersion), oculars (2, 3, 8, 12, 18), and photographic eye-pieces with micrometer. This laboratory is well lighted with gas and electricity and with a good exposure for ample sunlight.

In connection with the department there is a photographic dark-room and an excellent photographic outfit, consisting of cameras varying in size from 4x5 to 6½x8½ inches; Bausch & Lomb's professional photo-micro camera extending to eight feet; Zeiss's anastigmat photographic lens, 6½x8½, fitted with Bausch & Lomb's diaphragm shutter and Zeiss's wide angle lens, 6½x8½, all mounted in aluminum; Clark's lens fitted with diaphragm shutter; the accessory apparatus and chemicals required for first-class work in photography.

The students have access to the botanical garden where experiments in grass culture and many other plants of interest to the farmer are conducted by the professor.

TEXT-BOOKS.

LeConte's Geology, Tarr's Economic Geology, Dana's Mineralogy, Crosby's Tables for Determining Minerals, Bergen's Botany, Mell's Laboratory Guide, and notes of lectures.

CIVIL ENGINEERING AND DRAWING.

PROFESSOR LANE.

ASSISTANT HALEY.

The special studies in this department begin in the junior class, and require a good knowledge of algebra, geometry, trigonometry, and analytical mechanics. They are as follows:

Junior Class.—Simple, compound, reversed and parabolical curves, turn-outs and crossings, leveling, gradients, setting slope stakes, etc.

Special attention will be paid in this class to the location, construction, drainage and maintenance of country roads; and the various pavements and foundations for the same.

Senior Class—Classification, appearances, defects, seasoning, durability and preservation of timber; classification and description of natural building stones; bricks and concretes; cast and wrought iron, steel and other metals; limes, cements, mortars and their manufacture; paints and other preservatives; classification of strains and a general mathematical discussion of same; joints and fastenings; solid and open built beams; classification, construction and mechanics of masonry; foundations on land and in water; bridges and roofs of different kinds, their construction and strains determined mathematically and graphically; common roads, their coverings, and location, and construction of railroads; navigable, irrigation and drainage canals; rivers and seacoast improvements.

Theory and practice are combined in both classes.

* TEXT-BOOKS.

Junior Class—Henck's Field Book for Railway Engineers and Byrne's Highway Construction.

Senior Class—Wheeler's Civil Engineering and Von Ott's Graphic Statics.

DRAWING.

All of the students of the freshman and sophomore classes are required to take drawing; but only the students in civil engineering in the junior and senior classes.

The freshman class is taught linear and free-hand drawing. The sophomore class is instructed in the principles of orthographic and isometric projections, shades, shadows, perspective and tinting. In the junior class the instruction embraces a more extended course in orthographic and isometric drawing, perspective, shades and tinting; also sketches of tools and machines, plans and elevations and cross-sections of buildings, and blue-prints. The senior class makes topographical drawings and drawings of machines, roofs, bridges, etc., to different scales, and blue-prints. Plans, profiles and sections of railroad surveys complete the instruction in this department.

TEXT-BOOKS.

Freshman Class—Kitchener's Geometrical Note Book, Webb, Ware & Zaner's Practical Freehand Drawing.

Sophomore Class—Davidson's Projections, Davidson's Practical Perspective, Keuffel & Esser's Alphabet.

Junior Class—Davidson's Building Constructions, Davidson's Drawing for Mechanics and Engineers, plates belonging to the college, Keuffel & Esser's Alphabet.

Senior Class—French, English and American plates belonging to the college, Keuffel & Esser's Alphabet.

ENGLISH AND POLITICAL ECONOMY.

PROFESSOR THACH.

PROFESSOR WIATT.

ASSISTANT SCROGGS.

ASSISTANT LETCHER.

OBJECTS AND METHODS.

In this department the students pursue a systematic course in the English language and literature.

Language is the avenue of approach to all knowledge; the interpretation of words is the fundamental process in education of whatsoever kind. A full course in English is, therefore, considered especially important in the technical courses of study that do not include the ancient classics. Accordingly, the course in English is continued throughout the four years of the college curriculum, three hours a week, and is made obligatory upon all students, with the exception of those pursuing the first two years of the course in Latin. In this extended drill in the grammar and literature of the English language, the endeavor is made to afford a training somewhat equivalent to the ordinary course in the classical languages.

In view of the ill preparation in languages, especially in their mother tongue, exhibited by many of the candidates for admission to the freshman class, it is deemed advisable, for the sake of honest work, to devote a portion of the first year to grounding such students in the principles of grammar.

Especial attention is given to the study of the writings themselves of leading English authors, since direct contact with literature is considered more profitable than information merely *about* literature.

All students before classed as regular in any course leading to a degree must conform to all the requirements in English for admission as set forth on page 41.

For requirements as to thesis and as to proficiency in English for certificates and degrees see pages 49, 50, and 109.

Declamation and themes (or orations) are required of *all regular* students. For details see below.

COURSES OF STUDY.

Freshman Class—Five hours a week; study of grammar, the principles of special and general composition, with frequent brief papers illustrating the laws studied; study of American authors; Irving, Hawthorne, Holmes, Poe, Bryant, Longfellow.

Swinton's English Grammar, Lockwood's Rhetoric, Kellogg & Reed's English Language.

Sophomore Class—Three hours a week; study of style, analysis of selections of prose and poetry; frequent essays on historic and literary themes.

G. R. Carpenter's Rhetoric, Genung's Rhetorical Analysis, Syle's From Milton to Tennyson.

Junior Class—Three hours a week; lectures on the history of English literature, critical study of English classics, essays.

Pancoast's History of English Literature; Pancoast's Standard English Poems, Macaulay, Carlyle, DeQuincey, etc.

Senior Class—Two hours a week, first term. Principles of Criticism, Shakespeare's Julius Cæsar, Hamlet, etc., Dowden's Shakespeare, etc.

THEMES AND ORATIONS.

Theory without practice is as fruitless in the study of English as in any other department of study. Practical work is indispensable to the successful teaching of English.

Besides numerous brief papers illustrative of the subject matter of the text-books, set themes or orations are *required of all students*: For the freshman class, *ten* themes a year; *ten* for the sophomore; for the senior and junior classes, *three* orations each.

DECLAMATION.

The old practice of committing pieces to memory for "speaking" is cultivated as a means, both of training in the art of thinking on the feet, and of storing the mind with the diction of finished specimens of English style.

The sophomore class is heard weekly throughout the year in sections of ten, once for an hour and a half in rehearsal, afterwards in the study-hall before the body of students.

The senior and junior classes also deliver their orations in public.

PHILOSOPHY AND POLITICAL ECONOMY.

The senior class pursues the study of intellectual science, twice a week, through the year; and political economy twice a week, during the last two terms. The instruction in this department is by lectures in combination with text-books.

Intellectual Science—Psychology defined. Value in relation to moral culture, education and Natural Sciences. The relation of the soul to matter. The arguments of the Materialist. Counter arguments. The Faculties of the Soul. The nature of Consciousness. Sense Perception. Fancy. Imagination. Nature of Conceptions. Language. Judgment. Reasoning. Deduction. Induction, etc. *Porter's Intellectual Science*.

Political Economy—Value; production of wealth; land; labor; capital; division of labor; distribution of wealth; wages; trades-union; tariff; education, etc. *Lectures by Professor. Ely's Outlines of Economics*.

A Post-graduate course has also been established in English. The following courses have been given:

(1) *Shakespeare*—Hamlet, Othello, Macbeth, Merchant of Venice, As You Like It, Henry IV., Part I., Richard III., King John.

(2) *Dryden*—*Poetical Works* (Christie); *Essay on Dramatic Poesy* (Thomas Arnold); *Essay on Satire, etc.*, (Yonge); *Saintsbury's Life of Dryden*.

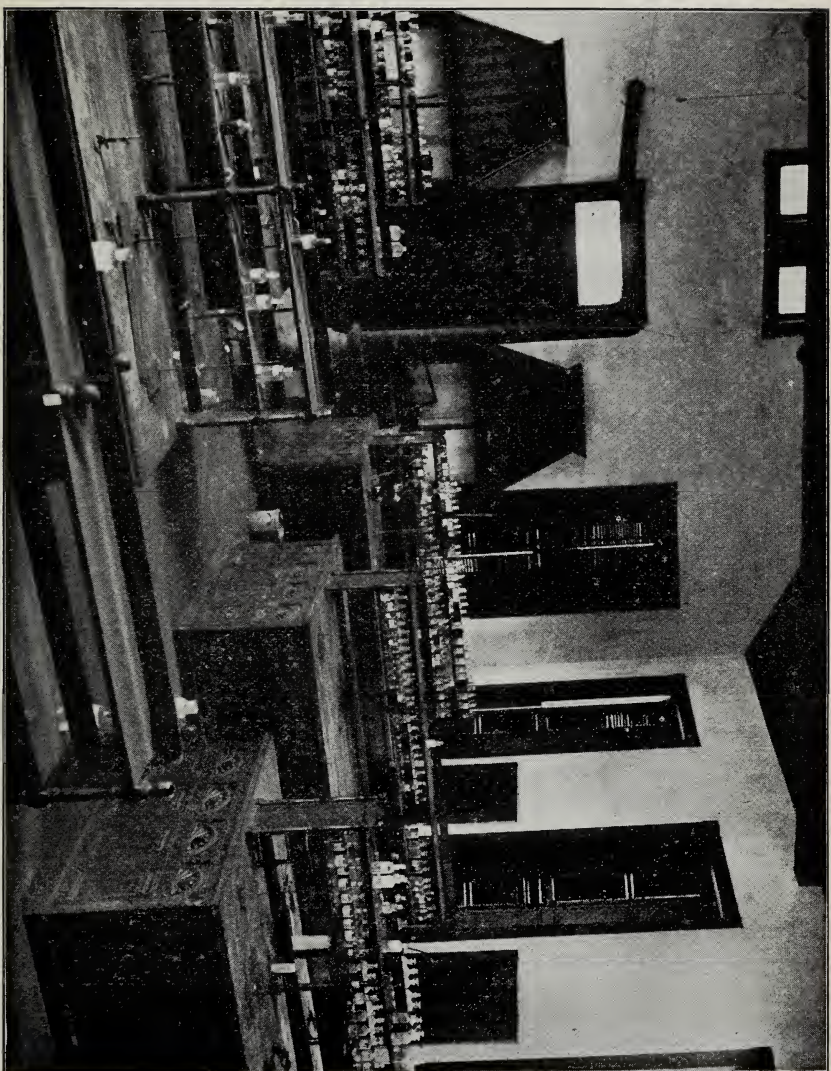
Pope—*Poetical Works* (Ward); *Satires* (Pattison); *Stephen's Life of Pope*, Gosse's *From Shakespeare to Pope and 18th Century Literature*.

(3) *English Literature of the Eighteenth Century*: Addison Pope, Gray, Goldsmith, Burns, Cowper, Burke.

(4) *American Literature*: Longfellow, Lowell, Poe.

(5) *The Rise and Development of the English Essay*: Bacon, Addison, Steele, Swift, Johnson, Goldsmith, Macaulay, DeQuincey, Lamb, Carlyle.

(6) *Milton*—*Poetical Works* (Masson); *Life*, Pattison, Brooke.



CHEMICAL LABORATORY (INTERIOR).

CHEMISTRY.

PROFESSOR ROSS.

ASSISTANT PROFESSOR HARE.

INSTRUCTOR PHELPS.

Instruction in this department embraces—

1. A course of lectures in general chemistry.
2. A course of lectures in industrial and engineering chemistry.
3. A course of lectures in organic chemistry.
4. A course of lectures in metallurgy.
5. A course of lectures in agricultural chemistry.
6. Systematic laboratory work in connection with each course of lectures, for the practice of chemical analysis and chemical research.

1. Course in general chemistry: This consists of a series of lectures (three per week) extending throughout the entire session, and includes a discussion of the fundamental principles of chemical philosophy in connection with the history, preparation, properties and compounds of the metallic and non-metallic elements, with the main facts and principles of organic chemistry. In this course the more common applications of chemistry to the arts and manufactures are discussed. The apparatus used for experimental illustration is extensive, containing the newest and approved improvements necessary for presenting the subject in the most attractive and instructive form.

REFERENCE BOOKS.

Roscoe & Schorlemmer, Fownes, Frankland, Remsen, Cooke's Chemical Philosophy, Chemical Journals.

2. Lectures in industrial chemistry (three per week) extend throughout the session, and include a discussion in detail of the processes and chemical principles involved in the most important applications of chemistry in the arts and manufactures to the preparation of materials for food and drink, for clothing, shelter, illumination, cleansing, purifying, writing, printing, etc.

These lectures are amply illustrated by means of suitable specimens of raw materials and manufactured products, together with models and diagrams.

A course of lectures (two hours per week) on engineering chemistry is given during the last half of the senior year, especial attention being given to the study of the construction and equipment of chemical plants devoted to the manufacture of the more important chemical products. The study of textile chemistry will also be included in this series of lectures.

Excursions to various chemical and metallurgical plants during the course of the year will aid in familiarizing the student with the practical details of the operations of the leading industries.

REFERENCE BOOKS.

Thorp's Industrial Chemistry, Wagner's Chemical Technology; Muspratt's Chemistry as applied to Arts and Manufacturing, Ure's Dictionary, Watts's Dictionary, Richardson and Watts's Chemical Technology, Sadtler's Industrial Organic Chemistry.

3. Course in organic chemistry: Instruction in this subject embraces lectures and recitations (two hours per week) throughout the junior year, upon the leading facts and principles of the chemistry of the carbon compounds, and includes a study of the methods of preparation of the more important compounds, their properties, and their structural and stereo-chemical relations.

TEXT AND REFERENCE BOOKS.

Remsen's Organic Chemistry, Richter's Organic Chemistry, Gatterman's Practical Methods of Organic Chemistry.

4. Course in metallurgy: This consists of lectures and recitations (two per week, during the first half of the senior year) upon the more important metals, such as iron and steel, copper, lead, tin, silver, gold, mercury, zinc, etc. It includes a discussion of the physical and chemical properties of the metals and their alloys, the ores and their treatment, and the processes by which the metals are obtained from the ores, with chemical reactions involved.

5. Course in agricultural chemistry: This consists of lectures on chemistry in its application to agriculture (two per week, during second and third terms), and includes a thorough discussion of the origin, composition and classification of soils, the composition and growth of plants, the sources of plant food and how obtained, the improvement of soils, the manufacture and use of fertilizers, the chemical principles involved in the rotation of crops, the feeding of live stock, and the various operations carried on by the intelligent and successful agriculturist.

REFERENCE BOOKS.

Johnson's How Crops Grow, and How Crops Feed, Lupton's Elementary Principles of Scientific Agriculture, Johnson's and Cameron's Elements of Agricultural Chemistry, Storer's Agriculture in Relation to Chemistry, scientific journals, reports of the United States Department of Agriculture, and the bulletins and reports of the various home and foreign agricultural departments and stations.

6. The course of systematic laboratory work: This course of practical work in the laboratory is carried on in connection with each course of lectures. In the jun-

ior year the work embraces the practical operations of chemical synthesis and analysis and includes the preparation of the non-metallic elements and their most important compounds, in addition to a systematic study of the metals and their compounds, their separation and identification. In the senior year students pursue work in quantitative analysis, including analysis of fertilizers, soils, coals, ores, iron and steel, sugars and sugar products, feed stuffs, mineral waters, fluxes, slags, cinders, furnace gases, etc., the courses of work being varied somewhat to suit the individual object of the student.

In the course in Pharmacy, instruction in Toxicology and Toxical Analysis is given during the last term of the senior year.

All students during the sophomore year are required to take two hours per week of practical laboratory work, instruction being given in the simplest methods of chemical manipulation.

The laboratories, which are open from 9 A. M. to 5 P. M., during six days in the week, are amply supplied with everything necessary for instruction in chemical manipulation in qualitative and quantitative analysis, and in the methods of prosecuting chemical research. Unusual facilities are offered to students who wish to devote their time to the special study of practical chemistry.

Each student on entering the chemical laboratory is furnished with a work table, a set of re-agent bottles and the common reagents and apparatus used in qualitative or quantitative analysis.

At the close of the session he will be credited with such articles as may be returned in good order; the value of those which have been injured or destroyed will be deducted from his contingent fee.

In addition to the laboratory work above described it is designed to give a short course of laboratory work in industrial chemistry, in which the student will apply upon a small scale the principles involved in the processes of some of the more important chemical industries.

TEXT-BOOKS.

In qualitative analysis—Jones, Sellers, Fresenius, Plattner.

In quantitative analysis—Fresenius, Cairns, Sutton, Rose, Blair's Analysis of Iron and Steel, Bunsen, Rickett's Notes on Assaying, Mitchell's Manual of Practical Assaying, Stillman's Engineering Chemistry, Lord's Metallurgical Analysis.

In agricultural chemical analysis—Official methods of the Association of Agricultural Chemists, Wiley's Principles and Practice of Agricultural Analysis.

CHEMICAL LABORATORY.

[For description of the building see page 16.]

The chemical apparatus recently purchased for the laboratory consists of a full supply of the most approved instruments for practical work and investigation. The building is supplied with water and gas and every appliance required to meet the demands of modern scientific instruction and research. In addition to the apparatus usually supplied to first-class laboratories, there have been imported a new and improved Schmidt and Hensch's polariscope, eight short-arm balances of latest pattern, Bunsen spectroscope, Abbe refractometer and other instruments for delicate and accurate work.

PHYSICS.

PROFESSOR SOUTHALL.

The complete course of Physics extends over four years, and is designed to give, as far as possible, an adequate and correct idea of the methods of Physical Science, and to lay the foundation for subsequent more advanced work if (as must often be the case, especially in an institution such as this) the student desires to pursue the subject further or intends to engage in any of the great engineering professions of which Physics is so important a basis. The lectures are illustrated by experiments; the students are required to work numerous problems and exercises; recitations are held each week.

FRESHMAN COURSE.

This course is very elementary, and continues only during the first and second terms. The object in view is to make the student familiar with the fundamental principles of Physics. The class meets three times a week. (The text-book will be announced later.)

SOPHOMORE COURSE.

This is a laboratory course, and deemed especially important for students of engineering, and of great advantage to such as intend to pursue the subsequent higher work in this department. The laboratory exercises are carefully selected, being designed to illustrate the fundamental methods and principles of Physics, and, although the work is necessarily more or less elementary, at the same time such accuracy and precision as the conditions admit of are insisted upon, so that the student is expected to acquire a fairly correct idea of modern experimental investigation. The exercises consist of the fundamental measurements of Length, Mass, Density, modulus of Elasticity, pendulum experiments, etc., together with a few more advanced experiments in connection with the simpler properties of Liquids and Gases, and the general phenomena of Heat and Sound. The student is required to write a careful report of each experiment, entering the results of observation in tabular form, and plotting a curve wherever practicable; also describing the object, apparatus, and method, and noting sources of errors, etc. Great stress is laid upon this requirement, and reports are not accepted unless they indicate that the student has done his best in every way. Four hours per week throughout entire year. (Text-book will be announced later.)

JUNIOR COURSE.

Lectures and recitations three hours a week throughout entire session. This is a more advanced course in general physics required of all candidates for a degree. The only preparation needed is a good working knowledge of mathematics through plane trigonometry. The course includes a series of illustrated lectures on the principles of Dynamics, as applied to Solids, Liquids, and Gases, Sound, and Heat, in the order named. Written exercises are required each week. (Text-book to be announced later.)

SENIOR COURSE.

Lectures and recitations two hours a week throughout the entire session. This course, although more advanced than the Junior course, and occasionally employing the higher Mathematics, is a continuation of the work of the previous year. It might be called a course in Elementary Mathematical Physics, and the subjects, varying from year to year, that are treated in the lectures are such branches of Physics as Kinematics and Dynamics, Thermodynamics, Electricity, and Magnetism, Geometrical and Physical Optics, etc. The student is encouraged to solve difficulties for himself, and to read the standard treatises and original memoirs on the various topics that come under discussion.

The last term of the session will generally be devoted to a brief course of lectures in *Descriptive Astronomy*.

The text-books in this class vary with the changing subjects, and will be announced by the professor each year.

GRADUATE COURSE.

This course will be designed to meet the needs of the students who take it. It will include both theoretical and experimental work in more advanced Mathematical Physics, or in Analytical Mechanics.

HISTORY AND LATIN.

PROFESSOR PETRIE.

ASSISTANT BOYD.

HISTORY.

In this department the aim is not so much to memorize facts as to understand them. Strong emphasis is laid on the fact that history is not a succession of isolated facts, but a progressive whole, each event being at once the cause and the effect of other events. The students are taught to investigate the growth of ideas and institutions, the rise and progress of great historical movements and the reciprocal influences of men and circumstances. Frequent use is made of diagrams, photographs, charts and maps, with which the department is well equipped. Instruction is given by text-books, lectures and class discussion, but a constant effort is made to stimulate to wider reading and research in the library.

The following courses are given :

Freshman Class—History of the United States, Alabama, and England.

Text-books: Hart's "Formation of the Union," Wilson's "Division and Reunion," Brown's "History of Alabama," Montgomery's "History of England."

Sophomore Class—Political and Social History of Europe, Ancient, Mediæval and Modern. The work is conducted partly by lectures, partly by text-book. Every week problems will be assigned for research.

Text-book: Myers's General History.

HISTORICAL LABORATORY.

In the junior and senior classes opportunity for special work in United States history is given to those stu-

dents of the General Course who elect it as laboratory work, and to any others who are properly qualified. The chief object kept in view is training in historical research and in the formation of independent, but careful opinions based on the original sources of information, as well as on the standard authorities. Emphasis is laid on the importance of securing proper material for investigation, and every incentive is given to the collection and use of new documents, papers and letters illustrative of Southern, and especially of Alabama, history.

The method of work is as follows: Informal lectures are given on important and suggestive points. After each lecture topics connected with it are assigned to the students with an outline of the points to be investigated. They report their results to the class and a discussion follows. The final results are collected by each student according to his own judgment in his note-book, which is then passed in to the professor for correction and suggestion.

The following courses in laboratory work will be offered during the session of 1902-03:

Junior Class—The motive for American colonization; colonial governments; causes of the Revolution; Declaration of Independence; treaty of peace; Confederation; Ordinance of 1787; Constitution.

Text-books: Frothingham's "Rise of the Republic," Lecky's "American Revolution," Fiske's "Critical Period."

Senior Class—The rise of parties; War of 1812; Monroe Doctrine; Missouri Compromise; Nullification; Annexation of Texas; Compromise of 1850; Kansas Struggle; Dred Scott Decision; Secession.

Text-books: Moore's "American Congress," Burgess's "Middle Period."

GRADUATE STUDENTS.

Graduate students are expected to take part in the junior and senior discussions and in addition will meet with the professor for conference in regard to their work. Those who take history as their major subject are expected to devote a large part of their time to original research upon some topic on which they can consult the original sources of information. They are also required to pursue a prescribed course of reading as indicated below.

TEXT-BOOKS.

Rhodes's "History of the United States from the Compromise of 1850," Vols. 1 and 2; Stephens's "Constitutional View of the War Between the States"; Lives of Calhoun, Clay and Jackson; special reading in connection with the research.

PRIZES.

The Eufaula Chapter of the Daughters of the American Revolution have offered a gold medal for the best original historical research done during the session of 1901-02 by any young woman matriculated in college.

The Colonial Dames in Alabama have donated fifty dollars toward the expenses during the session of 1902-03 of the young man matriculated in college who submits the best research on a specified colonial topic.

LATIN.

The objects kept in view in this department are: An accurate knowledge of the forms and syntax; a familiarity with Latin words, their etymology and their English derivatives; an appreciation of Latin literature and an intelligent conception of Roman history and civilization, both in themselves and in their effect on the modern world.

A systematic course of instruction is given in the forms and syntax. These are taught both deductively from a grammar and inductively from the text read. Translation is constantly practiced, sometimes at sight, sometimes after being assigned for preparation.

English passages based on the author read or illustrative of special constructions are put in Latin, both orally and in writing. Great emphasis is laid on the etymology of the words in the text read.

In connection with every author studied in class a course of reading in English is prescribed descriptive of his life, work and times. The historical setting and the literary value of his writings are carefully discussed and frequent comparisons are made with modern authors.

For the benefit of students who do not study the Latin language a series of popular lectures will be given upon the great Latin writers. Especial emphasis is laid on proficiency in writing Latin exercises and in translating Latin prose at sight.

TEXT-BOOKS.

Freshman Class—Allen & Greenough's Grammar, Exercises, Nepos, Sallust or equivalent.

Sophomore Class—Cicero, Allen & Greenough's Grammar, Bennett's Latin Composition.

Junior Class.—Virgil, Livy, Allen and Greenough's Grammar, Exercises, Guerber's Mythology, Botsford's "History of Rome."

Senior Class—Horace, Tacitus, Wilkins's Latin Literature, Exercises, Preston and Dodge's "Private Life of the Romans."

MODERN LANGUAGES.

PROFESSOR WIATT.

The chief aim in this department is to give the student a thorough and accurate knowledge of the elementary principles of the subjects taught, and to enable him to read with facility the ordinary French and German at sight. To train the ear, acquire a correct pronunciation and some facility in speaking, all recitations are supplemented, as far as practicable, by oral exercises in the languages themselves.

The following regular courses are given in French and German:

French—First Year: Three recitations a week. During this year the principal object is to acquire a knowl-

edge of the elements of grammar and a correct pronunciation, together with a facility in translating ordinary French. Reading is begun at an early stage, and the principles of grammar are illustrated and impressed by frequent exercises in rendering English into French.

Second Year: Three recitations a week. During this year almost the same line of work is pursued as that begun the previous year. More difficult and varied French is read, and instruction is given upon the laws of grammar, the construction of the language, and the history of the literature. Special attention is given to sight translation.

German—Two Years: Three recitations a week the first year, three a week the second year. In this course the aim and the methods are similar to those in French.

The students in this department will meet the professor twice a week, from 4 to 5 p. m. during the *first term*, and the *third term*, for exercises in conversation in French and German.

TEXT-BOOKS.

FRENCH—*First Year:* Edgren's Grammar and Locard's Supplementary Exercises. Super's Reader.

Second Year: Feuillet's Le Roman d'un Jeune Homme Pauvre, Racine's Esther, Corneille's Le Menteur, Molière's Le Bourgeois Gentilhomme, selected plays, Whitney's Grammar, original exercises.

GERMAN—*First Year:* Joynes-Meissner's Grammar and Reader.

Second Year: Der Bibliothekar, Wilhelm Tell, Whitney's Grammar and Exercises, selected plays, original exercises.

GRADUATE COURSE.

This course is offered for the benefit of those students who wish to pursue the study of these subjects beyond the scope to which a two-year course necessarily limits them. Here, in addition to the authors studied in the lecture room, a wide and extensive reading of authors and literature is prescribed.



MOSTS ENG. CO. N. Y.

ELECTRICAL BUILDING.

ELECTRICAL ENGINEERING.

PROFESSOR DUNSTAN.

ASSISTANT SLOAN.

JUNIOR YEAR.

First Term: Four hours per week are devoted to the study of the principles of electricity and magnetism, with special reference to their industrial applications. The subject of electrical measurements is also treated in detail.

Second Term: Incandescent lighting, four hours per week.

Third Term: Arc lighting and wiring, four hours per week.

TEXT-BOOKS.

S. P. Thompson's Electricity; Crocker's Electric Lighting, and Cushing's Standard Wiring.

Instruction is given by lectures and recitations.

LABORATORY WORK.

Four hours per week are devoted to work in the laboratory. This includes management of batteries, electrical measurements, adjustments and testing of arc lamps, and a considerable amount of wiring and some electrical construction.

SENIOR YEAR.

First Term: Dynamo electric machinery, five hours per week.

Second Term: Alternating currents and alternating current machinery.

Third Term: Polyphase machinery and power transmission, five hours per week.

TEXT-BOOKS.

Dynamo Electric Machinery, Sheldon. Alternating Currents, Franklin and Williamson, Standard Polyphase Apparatus, Oudin.

LABORATORY WORK.

Six hours per week during the entire senior year are devoted to practical work in the dynamo laboratory. The work includes the study and testing of various types of dynamos and motors, the determination of various constants, dynamo and motor efficiencies, transformer testing, and the general management and installation of electrical machinery.

ELECTRICAL DESIGNING.

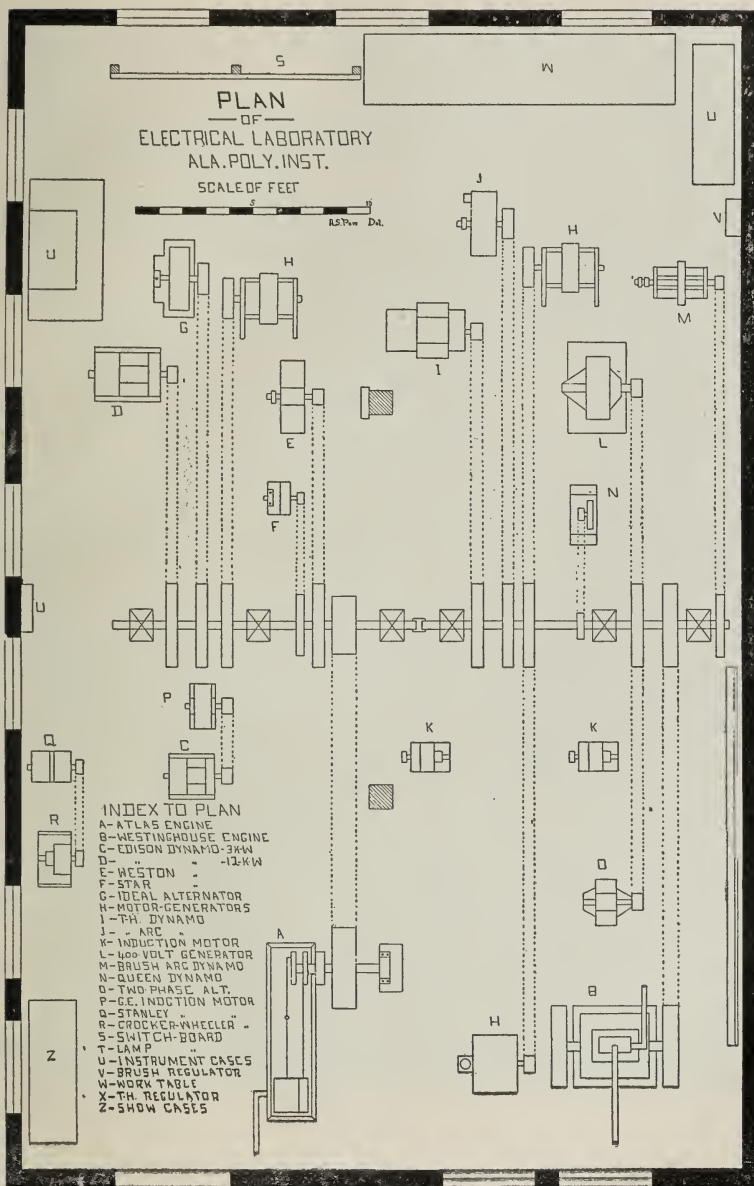
During the first term each senior student is required to design and prepare the necessary drawings for the construction of a direct current dynamo or motor, and during the third term the design of an alternator is completed.

Encouragement is offered to advanced students for conducting original investigations, and opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students in connection with their experimental work.

Post Graduate Course. To graduate students more advanced courses of instruction in polyphase machinery and power transmission are offered, the courses being varied from year to year to suit the needs of those taking them.

EQUIPMENT.

The laboratory is well supplied with batteries, storage and primary, telephones, plating apparatus and similar minor apparatus. Among the instruments of precision may be noted Kelvin ampere balances, graded current and potential galvanometers, alternating and direct current ammeters and voltmeters of various ranges, from Weston, Queen, Jewell, Hartman & Braun, Despretz, Fein, General Electric Company and other domestic and foreign makers. There are also direct reading and recording watt meters, dynamometers reading from .0001 ampere to 100 amperes, a number of resistance boxes and bridges, condensers, keys, galvanometers of various types, magnetic testing apparatus, portable and fixed, pho-



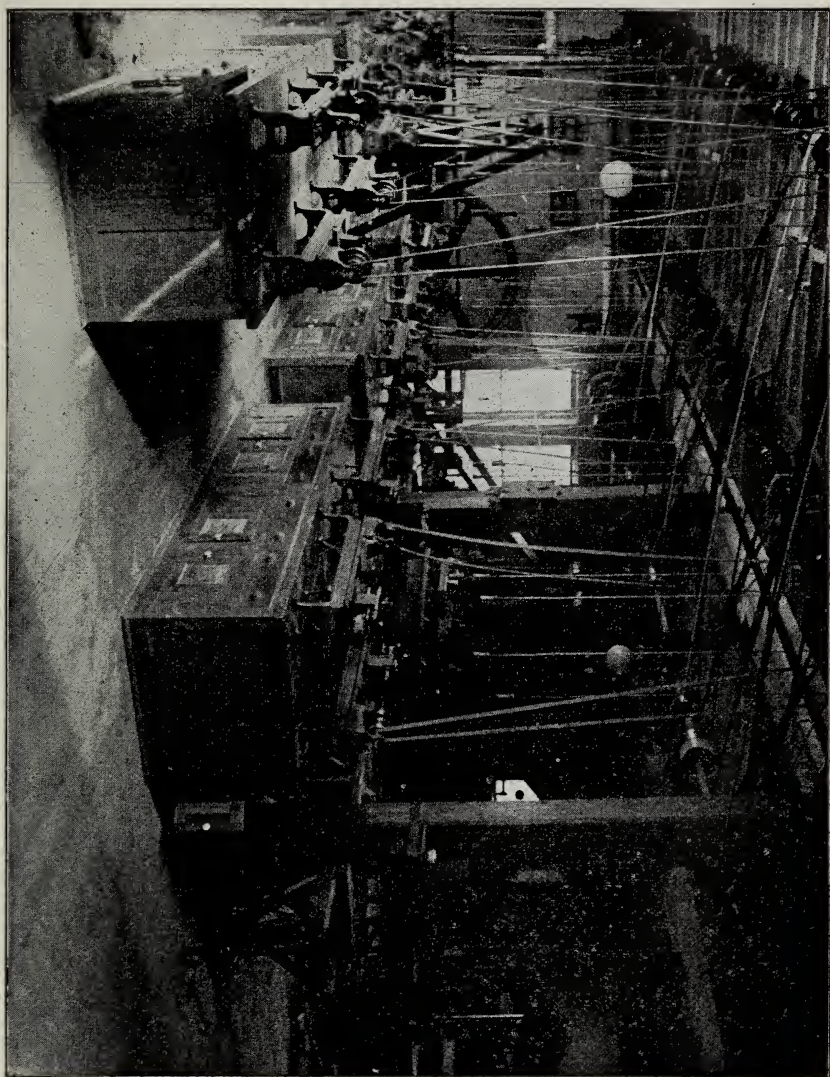
tometers, high potential testing apparatus, portable testing set, cradle dynamometer, a special instrument for comparing inductances, self and mutual, and capacities.

This department, being provided with Lord Kelvin's standard electrical instruments for exact measurements, will calibrate free of expense, any ammeter or voltmeter that may be sent to the college.

In the dynamo room the following are installed: One Weston 150 volt, 20 ampere dynamo, with rheostat; one Brush 6 arc light dynamo, with regulator and six lamps; one Ideal 5 kilo-watt three phase alternator; one Thompson-Houston 9 arc light dynamo with lamps; one Edison compound wound 12 kilo-watt generator; a Thompson-Houston 110 volt, 75 ampere generator; two street car motors used as either direct or alternating current generators or motors; two polyphase induction motors; one General Electric 5 horse-power induction motor, mounted on cradle dynamometer; General Electric 20 horse-power motor; and Stanley induction motor with condensers; one Fort Wayne 1 horse-power alternating current motor; Edison $3\frac{1}{2}$ kilo-watt generator; a Crocker-Wheeler 1 horse-power motor and rheostat and one bi-phase alternator, and 500 volt generator, made by special students, furnish current to laboratory and light up the different buildings. A lamp board with a capacity of 210 lamps has been installed and is used for testing purposes.

The dynamos occupy a separate brick building 50x32 feet, and are operated by a 60 horse-power Harrisburg Standard engine, and a 25 horse-power Atlas engine.

An electric motor, made by students, supplied with current from a generator at a distance of 3,000 feet, operates a gin, gin press, ensilage cutter and feed cutter at the experiment station farm. This motor not only subserves a useful purpose in the operation of these machines, but is an excellent illustration of the electric transmission of power.



WOOD ROOM.

MECHANICAL ENGINEERING AND MECHANIC
ARTS.

PROFESSOR WILMORE.

ASSOCIATE PROFESSOR CRENSHAW.

ASSISTANT PROFESSOR TRAMMELL.

ASSISTANT PROFESSOR FULLAN.

INSTRUCTOR HILL.

ASSISTANT WERNER.

The course in manual training covers three years, as follows: First year, wood-working—carpentry and turning; second year, pattern making and foundry and forge work—molding, casting and smithing; third year, machine shop—chipping and filing and machine work in metals.

This course is obligatory upon the students of the two lower classes. For satisfactory reasons a student may be excused from this laboratory work by the Faculty.

The full work of each class is six hours per week, in three exercises of two hours each.

The power for running the apparatus in this department is derived from a 25 horse-power Harris-Corliss automatic engine. A steam pump and a heater for the feed-water form a part of the steam apparatus. For the steam plant a substantial brick boiler-house and chimney have been erected, and a 100 horse-power Heine boiler installed.

The equipment for the wood-working shops comprises the following: 30 wood-working benches, each with complete set of carpenter's tools; 24 turning lathes 10-inch swing each with complete set of tools; 1 double circular saw; 1 band saw; 1 board-planing machine; 1 jointer; 1 pattern-maker's lathe 16-inch swing; 1 36-inch grindstone. The tool room is supplied with a variety of extra hand tools for special work and in addition to the regular carpenters' tools in the benches each student is supplied with a set of chisels

and plane irons with a locker to keep them in and is held responsible for their care and condition.

The equipment for the foundry consists of molding benches for 18 students, each supplied with a complete set of molder's tools; a 23-inch Colliau cupola, with all modern improvements, capable of melting 2,000 pounds of iron per hour; a brass furnace in which can be melted 100 pounds of brass at a heat, with a set of crucible tongs, etc. Also a full supply of ladles, large and small molding flasks, a foundry crane, special tools, etc.

The forge shop equipment consists of 24 down draft forges of new pattern each with a set of smith's tools, anvils, etc. The blast for all the forges is supplied with a No. 3 Sturtevant steel pressure blower (which also furnishes blast for the foundry cupola), and a 60-inch underground exhaust blower draws the smoke from the fires into the smoke flues and forces it out through the chimney.

The machine department occupies a brick building 30x100 feet and is equipped with eight 14-inch screw cutting engine lathes with six-foot bed; 2 engine lathes, 16-inch swing (one with taper attachment); 1 engine lathe, 18-inch swing, with compound rest and taper attachment; 1 speed-lathe, 10-inch swing; 1 20-inch drill press (power feed); 1 10-inch sensitive drill; 1 15-inch shaper; 1 22-inch x22-inchx5 foot planer; 1 26-inchx26-inchx6 foot iron planer; 1 universal milling machine; 1 corundum tool grinder (14-inch wheel); 1 bench grinder; 1 post drill press; 1 Brown and Sharpe universal grinding machine; 1 universal cutter and reamer grinder; 1 power hack saw. A part of the room is set apart for vise work, chipping and filing; and benches for twelve students are provided, each with vise and set of files, chisels, hammers, etc. In the tool room is to be found a good supply of machinists' tools for general shop use, such as lathe and drill chucks, drills, reamers, taps, dies, gauges, files, cutting and measuring tools, and special appliances for machine work, with machine for grinding twist drills.

The nature of the work in each department is as follows:

FIRST YEAR.

I. A course in carpentry or hand work covering the first two terms. The lessons include instruction in the nature and use of tools, instruction and practice in shop drawing, elementary work with plane, saw, chisel, different kinds of joints, timber splices,

cross joints, mortise and tenon, mitre and frame work, dovetail work, comprising different kinds of joints used in cabinet making, light cabinet work, examples in building, framing, roof-trusses, etc.

II. A course in turning, extending through the third term. The lessons comprise nature and use of lathe and tools, plain straight turning, caliper work to different diameters and lengths, simple and compound curves, screw plate and chuck work, hollow and spherical turning.

SECOND YEAR.

I. Course in forge work in iron and steel, occupying the first term. The lessons are arranged so that the students in making the series of objects, become familiar with the nature of the metals and the successive steps in working them by hand into simple and complex forms, as drawing, upsetting, bending, cutting, punching, welding by various methods, tool-forging, tempering, hardening, etc.

II. A course in pattern-making covering the second term. The work includes a variety of examples of whole and split patterns, core work, etc., giving the students familiarity with the use of patterns for general molding.

III. A course in molding and casting in iron and brass occupying the third term. The work consists for the most part of small articles, such as light machine parts, but a sufficient variety of forms are introduced for the student to acquire a good general and practical knowledge of the usual methods and appliances used in light foundry work. Most of the work is in green sand in two part flasks; core work is also given and some three part flask and some dry sand work is introduced.

The same patterns which have been previously made by students are used, besides special patterns for occasional larger or more complicated work. Instruction and practice is given in working the cupola.

In connection with the second year work, a series of lectures is given on the metallurgy and working of the metals used in the industrial arts, cast and wrought iron, steel, brass, etc.

THIRD YEAR.

I. Course of chipping and filing, covering the first term. The lessons comprise work on cast and wrought iron; chipping to line on flat and curved surfaces, key-seating, etc., filing and finishing to line (straight and curved), surface filing and finishing, fitting,

slotting, dovetail work, sawing, pin and screw filing, surface finishing with scraper, etc.

II. Machine work occupying the remainder of the year. The work includes cast and wrought iron; steel and brass; turning to various diameters and lengths, taper turning, facing with chuck and face plate, drilling—both in lathe and drill press—reaming, boring, screw-cutting in lathe and with taps and dies, planing, slotting etc., with planer and shaper, milling various forms with the milling machine, including exercise in making taps, reamers, etc., fitting, grinding, polishing, etc.

Lectures are also given during the year on various subjects connected with machine work in metals; such as forms, construction and use of the various machines, cutting tools, gearing, gauges, screw threads, etc. During the last term some piece of construction work is given the classes.

All of the work is done from blue prints and blackboard sketches. In the construction work the student is given a blue print and the material for a certain part. He is then encouraged to study the work and plan the best method of doing it.

MECHANICAL ENGINEERING.

JUNIOR YEAR.

Elementary Mechanics.—Three hours a week for the first term are devoted to this subject. The fundamental laws underlying all mechanical science and the mechanics of liquids, gases and vapors are studied.

Kinematics.—Three recitations per week during the second and third terms are devoted to this subject.

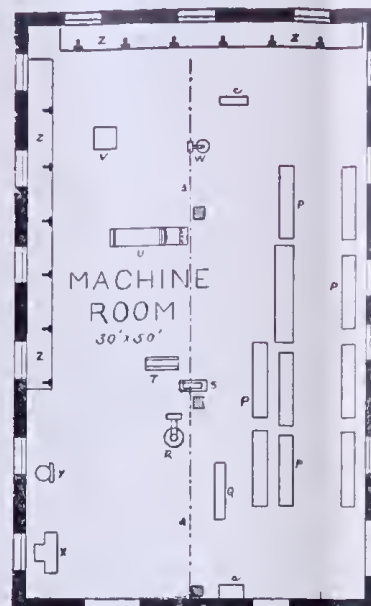
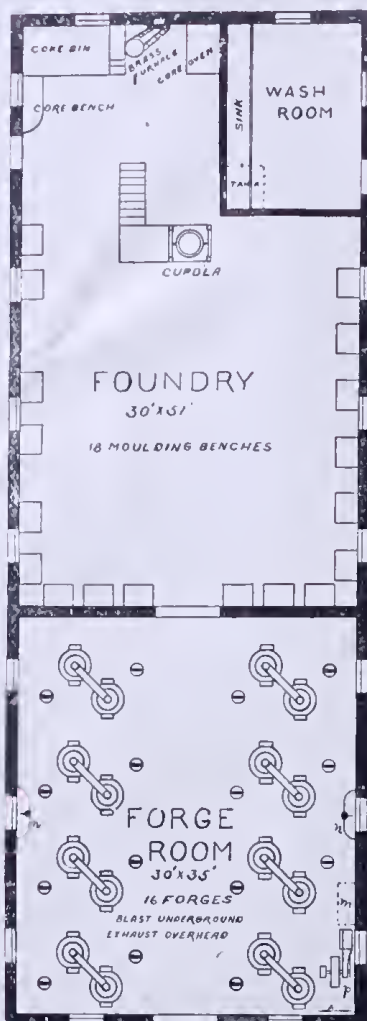
Under this head machines are analyzed and their elementary combinations of mechanism studied. The communication of motion by gear-wheels, belts, cams, screws and link-work, the different ways of obtaining definite velocity ratios and definite changes of velocity, parallel motions and quick return motions as well as the designing of trains of mechanism for various purposes, together with the theoretical forms of teeth for gear wheels to transmit the motion through these trains, are investigated under this subject.

PLAN OF LABORATORY ~ OF ~ MECHANIC ARTS, ALA. POLY. INST.

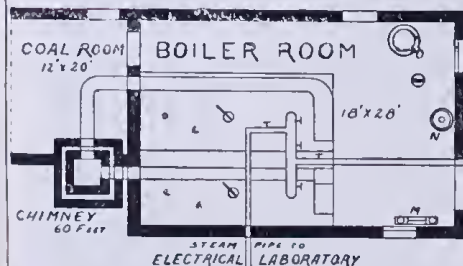
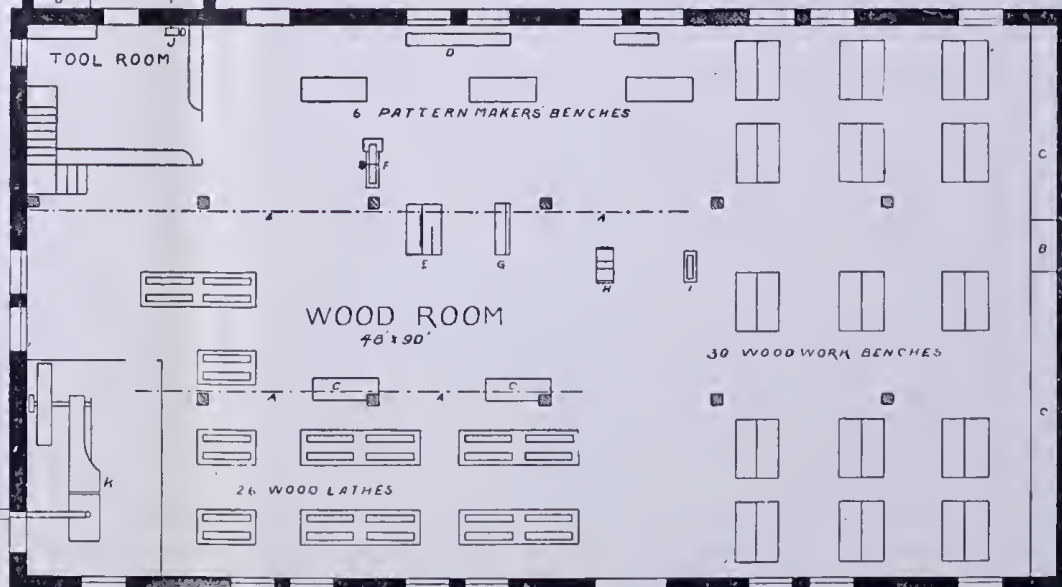
AUBURN, ALA.

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Mechanical Drawing.—FOUR hours a week during the year are devoted to drawing. During the first part of the year instruction is given in the conventional methods of representing standard materials, and in the design of fastenings and machine parts. Later on scale drawings of simple machines are made from dimensioned sketches which each student makes for himself from the actual machine. Free hand lettering, tracing, and blue-printing receive attention, and all the instruction is intended to familiarize the student with modern drawing office methods.

TEXT-BOOKS.

Wood's Elementary Mechanics, Barr's Kinematics of Machinery.

SENIOR YEAR.

Mechanical Engineering of Power Plants.—The first term, five hours per week, is given to the study of the practical applications of steam machinery. It is believed that a thorough knowledge of the apparatus in actual practical use is the best preparation a student can have for the study of the theory, and to that end, the different types of engines, boilers, pumps, condensers, and other auxiliary apparatus are taken up and studied in detail, and the advantages and disadvantages of each discussed. Extensive files of manufacturers' catalogues are kept and the technical papers and magazines in the library are freely used in order to keep in touch with the latest and best practice in engineering work.

Steam Engine.—The second term five hours per week will be given to the study of the theory and efficiency of the steam engine, with discussions of the effects of condensation in cylinder, action of fly wheels, effect of jack-eting, etc. Simple and compound engines, various valves

and cut-off motions, and the principal types of modern engines are studied. Special attention is given to the steam engine indicator.

Applied Mechanics.—The third term, four hours per week is given to work in this subject. Applications of the mechanical principles previously learned, are made to the solution of practical problems. Considerable attention is given to graphical methods, these being used in preference to the analytical when possible.

One hour a week for the third term is given to a series of lectures on mechanical refrigeration and gas and gasoline engines.

Machine Design.—The subject of machine design is made a continuation of the junior course and runs throughout the year, two hours a week. The general plan of the work follows the text-book adopted, but variations are made and additional exercises given when found desirable. The strength and proportion of joints, fastenings and machine details are studied. Problems are given, the dimensions worked out and the drawings made. It is the purpose of the course, as far as time will permit, to prepare students for practical drawing-room work.

Laboratory Work.—The students are not only taught how to calibrate and use the different instruments, but they are brought in contact with engineering appliances under practical working conditions.

Thoroughness of work is sought rather than the performance of a large number of experiments.

The following course has been arranged:

Calibration of steam gauge; calibration of indicator spring; calibration of thermometer; calibration of scales and balances; calorimeter tests with barrel, separating and throttling calorimeters; boiler test with determination of the quality of steam and analysis of flue gas; efficiency test of engine with brake and indicator power measurement; test of hot air pumping engine; efficiency and duty

of a steam pump; tensional, compressional and transverse tests of cast iron, wrought iron, steel and wood, in which are observed the limit of elasticity, the ultimate breaking strength and the modulus of elasticity.

This class usually makes a test of some electric plant or mill some time in the last term.

The apparatus for carrying on this work consists of a 100-horse power Heine boiler, a 45-horse power Imperial cross compound engine, especially arranged for experimental work, supplied with Wheeler surface condenser and Worthington air pump and circulating pump; of a 25-horse power Harris-Corliss engine, a 35-horse power Westinghouse engine, a 25-horse power Atlas engine, two 9-horse power engines constructed by students in the shops; a Duplex Deane steam pump, an Ericsson hot air engine, a Westinghouse air pump, four steam engine indicators, a separating calorimeter, pyrometers, scales, a standard steam gauge with apparatus for testing steam gauges, a Crosby dead weight tester for correcting the standard gauge, a 35,000-pound testing machine, and Henning micrometer extensometer, a Carpenter calorimeter, with auxiliary apparatus for determining the heating value of different fuels, a draft gauge, and a Henning pocket recorder.

TEXT-BOOKS.

Hutton's Mechanical Engineering of Power Plants, Holmes's Steam Engine, Reid's Machine Design.

REFERENCE BOOKS.

The Library contains a number of standard works on the various subjects studied, and the students are referred to them constantly for more extended treatment of many points that come up in class.

POST-GRADUATE COURSE.

Considerable latitude is allowed in the selection of post-graduate work, and the course is arranged each year to suit the requirements of the class. One of the following lines of work is recommended: Hydraulics, Thermodynamics, or Power Plant Engineering. The course selected is accompanied by suitable laboratory work.

TEXT-BOOKS.

Flather's Dynamometers and Measurement of Power, Peabody's Thermodynamics of the Steam Engine, Merriman's Hydraulics.

AGRICULTURE.

PROFESSOR DUGGAR.

Instruction in agriculture is given by means of lectures, text-books, bulletins of the agricultural experiment stations, and practical work in field, barn, and dairy.

The study of agriculture begins with the freshman class in the third term, and extends through three terms of the sophomore year and two terms of the junior year. The time devoted to this study in the lecture room is two hours per week with each class.

The subjects studied by the freshman class are the breeds of horses, cattle, sheep and hogs—their characteristics, uses, management and adaptability to the South. Practical work in judging live stock occupies one afternoon per week during the second term. Five breeds of cattle, Angus, Red Polled, Shorthorn, Jersey, and Holstein, are represented in the herd maintained by this department.

The first term of the sophomore year is devoted to dairying. Dairying is taught by practical work in the dairy,—butter making, determination of fat in milk by the Babcock method, etc.,—as well as by instruction in the lecture room.

In the second term of the sophomore year the following subjects are studied: Soils—chemical and physical properties, defects, and means of improvement; the con-

trol of water, including means of conserving moisture in times of drought, terracing, underdrainage, and open and hillside ditches; objects and methods of cultivation; agricultural implements; rotation of crops; and improvement of plants by crossing, selection, and culture.

The third term of the sophomore year is devoted to the staple crops produced in Alabama, to forage plants adapted to the South, and to plants valuable for the renovation of soils. The more important crops are treated with reference to varieties, soil and fertilizer requirements, methods of planting and cultivating, and uses. Practice is given in judging and selecting corn and cotton and in the culture of these and other staple and forage crops.

In the junior year the subjects of feeding animals, principles of breeding animals, and of farm management are studied. Among the topics included under the latter heading are different systems of farming and stock growing, farm equipment and building, silos and silage, care of farm manures, composting, choice and methods of applying commercial fertilizers for different crops and soils, and economical methods of improving exhausted soils.

In every class the student is encouraged to independent thought on agricultural problems rather than to depend on "rules of thumb," so that he may be prepared to adapt his practice in after years to changed conditions of soil, climate, capital, market, etc. The successful farmer must be a thinker rather than a blind follower of inflexible rules.

The effort is made to keep before the student the difference between the widely applicable principles on which every rational system of farming rests and the details that vary with changing conditions. The conditions of soil, climate, etc., prevailing in different parts of Alabama are kept constantly in view.

As far as limited time allows, attention is directed to agricultural literature now accumulating so rapidly in this and in foreign coun-

tries, to the end that in future years the student may know where and how to seek the information that he may need.

The equipment for carrying on the practical work of the department consists of small herds of Red Polled, Shorthorn and Angus cattle; a herd of dairy cows which are used each winter in testing the relative values and profits in different foods; a small herd of Poland China hogs; a few other miscellaneous specimens of live-stock; the fields and large collections of growing plants on the Experiment Station farm; the collection of agricultural implements employed in the work of the farm; and a working dairy, equipped with necessary appliances for making butter and testing dairy products.

POST-GRADUATE COURSE.

Applicants for post-graduate work in agriculture are assigned special research work and aided in the line of investigation deemed best for each individual student.

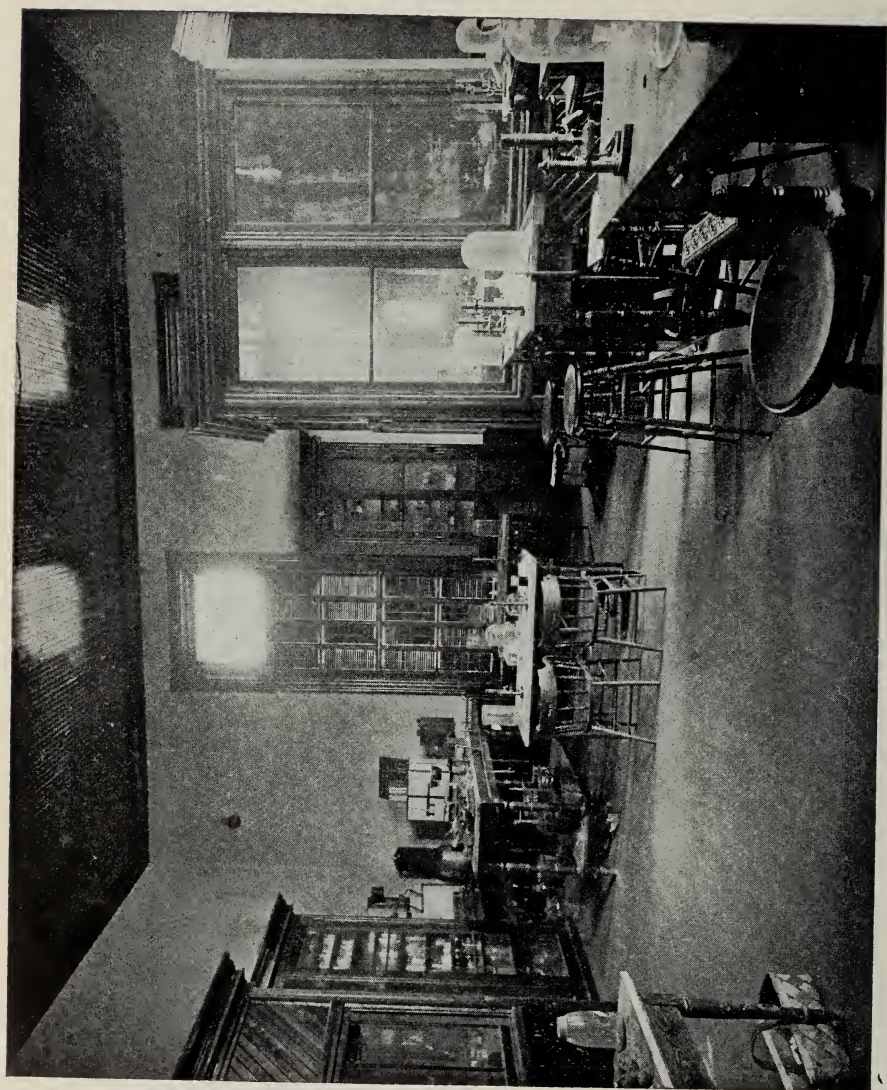
TEXT AND REFERENCE BOOKS.

Horses, Cattle, Sheep and Swine, by Curtis; The Study of Breeds, by Shaw; Milk and Its Products, by Wing; Dairyman's Manual, by Stewart; Soils and Crops of the Farm, Morrow & Hunt; Forage Plants, by Shaw; The Fertility of the Soil, by Roberts; Corn Culture, by Plumb; The Soil, by King; Physics of Agriculture, by King; Manures and the Principles of Manuring, by Aikman; Drainage for Profit and Health, by Waring; Agriculture in Some of Its Relations with Chemistry, by Storer; The Feeding of Animals, by Jordan; Feeds and Feeding, by Henry; Stock Breeding, by Miles; Hand-book of Experiment Station Work; and selected publications of the various divisions of the U. S. Department of Agriculture, and of the Agricultural Experiment Stations.

BIOLOGY AND HORTICULTURE.

PROFESSOR WILCOX.

1. COMPARATIVE ANATOMY OF THE SPERMATOPHYTES. A thorough study of the structure and activities of the plant cell will be followed by an examination of the typical tissues with special reference to their function. Students are required to become acquainted with the



LABORATORY OF BIOLOGY.

general methods of botanical microtechnique, including the killing, fixing, imbedding, sectioning, staining, mounting and drawing of all the tissues examined.

Lectures and Recitations: Three hours per week during the fall term of the senior year.

Laboratory Work: Two hours per week.

2. PHYTOPHYSIOLOGY.—This is a course of carefully selected experiments, to be performed by each student, supplemented by selected readings, conferences and lectures upon certain subjects. It will be the aim of this course to develop a good, general knowledge of the most important functions of seed-plants, such as absorption, photosynthetic assimilation of carbon-dioxide, transpiration and respiration.

Lectures and Recitations: Three hours per week during the winter term of the senior year.

Laboratory Work: Two hours per week.

As a text, MacDougal's "Practical Text-Book of Plant Physiology" will be employed, while as a laboratory guide Ganeng's "A Laboratory Course in Plant Physiology" will be used.

3. PHYTOPATHOLOGY.—The aim of this course is to present a broad and comprehensive view of the subject. A thorough study will be made of the principal sorts of parasitic fungi, but not to the exclusion of diseases produced by unfavorable surroundings and various inorganic factors.

Lectures and Recitations: Three hours per week during the spring term of the senior year.

Laboratory Work: Two hours per week.

4. RESEARCH AND THESIS WORK.—The following lines of work are open to students during this year:

- (1) Comparative embryology of spermatophytes.
- (2) Ecology and ecological anatomy.
- (3) Physiology and morphogenesis.

(4) Advanced plant physiology.

(5) Advanced cytology.

It is expected that seniors will select work in one of these groups and that the results of the research will be presented as a thesis for publication.

HORTICULTURE.

At present special horticultural instruction is confined to the spring term of the junior year in the course of chemistry and agriculture, and to some practical work and "field lectures" to the students of the same course during the sophomore year. Instruction is given by lectures and text-books and by courses of reading, using the green house and orchards and gardens of the experiment station to give practical illustrations of the subjects taught.

It is expected that more extensive courses in horticulture will be provided for next year in connection with a new course in botany and horticulture.

PHYSIOLOGY AND VETERINARY SCIENCE.

PROFESSOR CARY.

ASSISTANT GOGGANS.

PHYSIOLOGY.

The sophomore class studies human anatomy, physiology and hygiene during the entire college year.

It is the aim of the department to give the students practical and real knowledge of the gross anatomy and functions of the various parts of the human body. Due attention is given, also, to the laws of health—the conditions most favorable to a continuous healthy action of the organs of the human body.

Instruction is given by lectures and by text books, supplemented by blackboard drawings, charts, models

of organs, a human skeleton and by dissections of some of the smaller animals (dog, cat, etc.)

Martin's Human Body is used as a text and reference book, and several other works on anatomy, physiology and hygiene may be consulted in the college library.

VETERINARY SCIENCE AND ART.

Students in the agricultural and chemical course of study, during the entire junior and senior years, devote to this work two hours per week in the class room and three hours per week at practical clinics. Instruction in veterinary science and art is given by lectures.

The lectures are arranged with special reference to the students who are interested in horses or other domestic animals; also to those students who contemplate studying human or veterinary medicine. While it is not the aim to give a complete course in veterinary medicine, we attempt to present the general principles of comparative medicine with such special applications as are adapted to the conditions and wants of the students.



Special attention is given to the exterior anatomy of the horse, while comparative anatomy is presented mainly in connection with the study of the diseases of the different apparatus of the horse or other domestic animals.

Lameness in the horse, minor surgery, the actions and uses of the most common medicines, the principles and practice of comparative medicine, and the ways of protecting the health of domestic animals, are considered in as plain and practical a manner as the time allotted to each subject will permit. Post-mortem examination and the dissection of domestic animals are used as object lessons in the study of general pathology and anatomy.

The senior class in pharmacy devotes three hours per week, during the first and second terms, to the study of therapeutics; and three hours per week during the third term to class room and laboratory work in bacteriology.

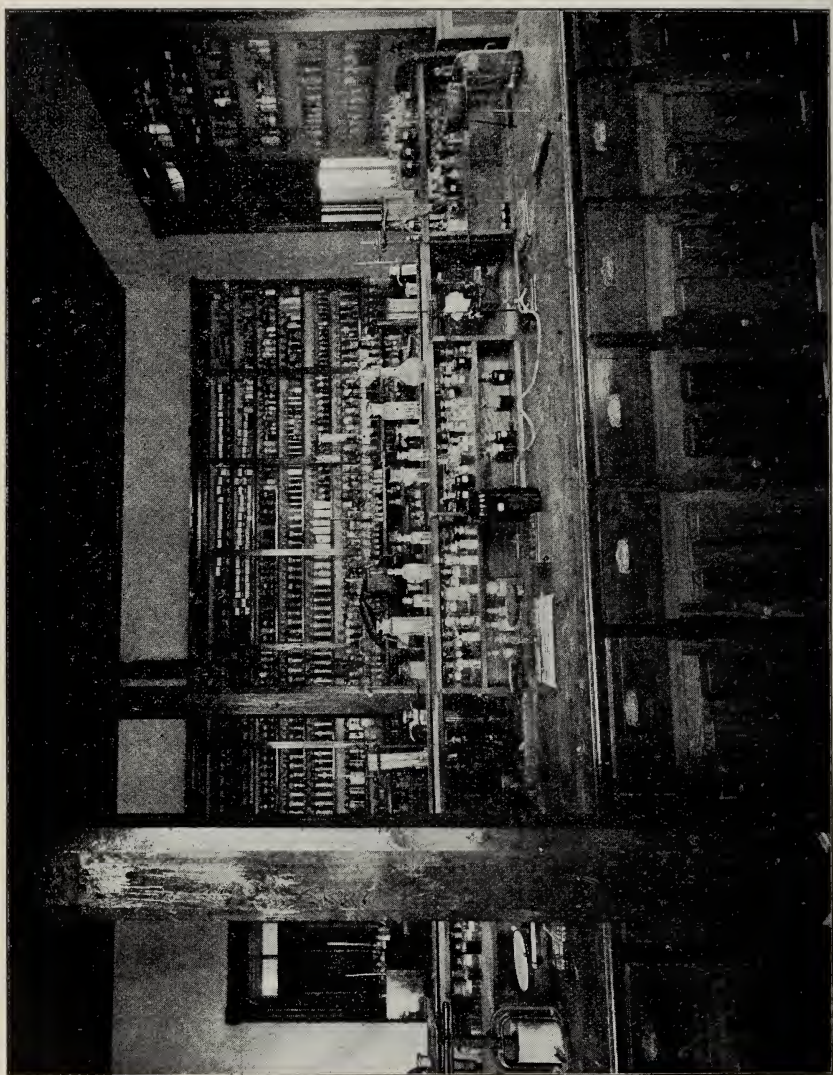
To the post-graduate student this department furnishes work in histology, pathology, bacteriology, meat and milk inspection. This work gives students who contemplate studying medicine excellent preparatory work along that line. Such students may devote one-half their time to work in this department with the approval of the Faculty.

Histology includes methods of injecting small animals, collecting, fixing, hardening, embedding, section cutting, mounting, staining, examining under the microscope, drawing and describing the different tissues.

Pathology is studied in text and reference books and morbid histology embraces naked eye and microscopic examinations of diseased tissues in the laboratory. Quite a collection of diseased tissues and animal parasites are found in connection with the laboratory.

The laboratory is well fitted for the study of bacteriology. Bacteriological analysis of water, milk, sputum, pus, diseased tissues, and of soils can be made. All of the practical operations in the preparation of culture, media, sterilizations, inoculations of small animals, straining, microscopical examinations, may be learned. In the laboratory are three Bausch & Lomb and two Winkel microscopes, each of which is supplied with oil immersion objectives, two oculars, Abbe condenser, and iris diaphragm. Sterilizers, autoclaves, incubators, and all the necessary apparatus required in bacteriological work are to be found in the laboratory.

The department of physiology and veterinary science is now lo-



LABORATORY OF PHARMACY.

cated by itself in a building which consists of a two-story portion containing four laboratory rooms on the second floor and a lecture room, museum and office on the lower floor; and a one-story part which contains an operating room.

The building is supplied with water and gas and the laboratory is now equipped for work. The museum contains the skeletons of the horse, the ox, the sheep, and the hog, and a human skeleton. It also contains anatomical models of the various parts and organs of the human body, and models of many parts of the horse, the ox and the other domestic animals. It also contains a collection of pathological and anatomical specimens, and one of animal parasites.

The new veterinary hospital building contains five large box-stalls, four open single stalls, an office and a feed room on the lower floor; the upper floor is used as a storage room for hay, fodder, etc. The hospital is supplied with fresh water.

A new brick and cement dissecting room (16x32) has just been completed. It is supplied with extensive north skylight, and with water and gas.

Every Saturday during the college year the department conducts a free clinic for the benefit of the students in veterinary science and art. Clinical cases have been various and numerous, giving the students opportunity to see and study many diseases and lameness and to become proficient in minor operations.

PHARMACY AND PHARMACOGNOSY.

PROFESSOR MILLER.

ACTING PROFESSOR MASON.

JUNIOR YEAR.

Pharmacy.—Class work, *three hours* a week. The different systems of weights and measures. Specific gravity. Pharmaceutical problems. The fundamental operations in pharmacy. Apparatus used in pharmaceutical processes. Discussion of all classes of pharmaceutical preparations.

Laboratory, *nine hours* a week. Preparation of official and non-official galenicals.

Pharmacognosy.—Class work with laboratory work, *four hours* a week. All official vegetable drugs studied with aid of simple and compound microscope.

SENIOR YEAR.

Pharmacy.—Class work, *five hours* a week. Official and non-official pharmaceutical chemicals, inorganic and organic, including the more important newer remedies. The prescription. Incompatibilities. Doses.

Laboratory, *twelve hours* a week. Preparation of official and non-official pharmaceutical chemicals, inorganic and organic. Pharmaceutical testing by pharmacopœial methods. Drug assaying, special attention given to compounding of prescriptions.

Pharmacognosy.—Class work, with laboratory work, *four hours* a week. Study of important non-official vegetable drugs; of drugs of animal origin; of adulterants and worthless drugs. Practical exercises in identification of pharmaceutical preparations and chemicals.

The practical work in pharmacy includes the manufacture of not less than two hundred pharmaceutical preparations and the compounding of not less than fifty prescriptions.

The work in pharmacognosy includes the study of more than 300 drugs, each of which the student is required to recognize by its physical and chemical properties, giving Latin name, common name, origin, habitat, constituents, medicinal action and dose.

MILITARY SCIENCE AND TACTICS.

COL. B. S. PATRICK, COMMANDANT.

Military science and tactics are required by law to be taught in this institution. The law is faithfully carried out by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company and of the battalion



CORPS OF CADETS.

in close and extended order, also in guard mountings, inspections, dress parades, reviews, etc.

Under section 1225, U. S. Revised Statutes, the College is provided with modern cadet rifles and accoutrements. Ammunition for practice firing is used under the direction of an experienced officer. The exercises in target practice begin the first day of the third term.

The following uniform of standard cadet gray cloth has been prescribed for dress: Coat and trousers as worn for fatigue at West Point, with dark blue cadet cap. A neat and serviceable uniform can be obtained here at \$15 to \$16. This is less expensive than the usual clothing. All students are required to wear this uniform during the session.

The entire body of students is divided into companies. The officers are selected for military efficiency, good conduct and scholarship. The commissioned officers will be selected either from the senior or junior classes, and promotion will depend on merit and not wholly on seniority.

A band, composed of cadets, furnishes appropriate music at all reviews and parades, and on other special occasions.

A student who has once accepted an office cannot resign it except for reasons entirely satisfactory to the President and Commandant. The resignation of his office by a minor will usually not be considered without first placing all the circumstances of the case before his parent or guardian.

Candidates for appointment or promotion may be required to stand an examination. Moral fitness, including demerits, will be considered.

Examinations will be conducted by a board of officers, to be composed of the Commandant of Cadets and two commissioned officers, to be designated by him. The proceedings of the board are subject to revision and approval by the President of the College.

Each company is officered by one captain and two first lieutenants, one second lieutenant, and with a proper number of non-commis-

sioned officers. The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are confirmed by the President on nomination of the Commandant.

The junior class recites once a week in the United States Infantry Drill Regulations.

The senior class recites once a week in Wagner's Security and Information, and Manual of Guard Duty, U. S. Army.

On the graduation of each class the names of such students as have shown special aptitude for military service will be reported to the Adjutant-General of the U. S. army and the names of the three most distinguished in military science and tactics will be inserted in the U. S. Army Register, and published in general orders from headquarters of the army.

CADET BAND.

The cadet band is a part of the military organization of the College. It takes part in the military and other exercises, and plays when its services are required.

Regular and individual instruction is given free of charge by the band master. A text-book on general musical information is used in connection with the practical instruction.

A gold medal is given each year by the band master to the member of the band who makes the best general record for the year. The presentation is made at Commencement.

MISCELLANEOUS.

GYMNASIUM AND ATHLETIC FIELD.

The gymnasium is situated at the west end of the athletic and drill grounds, and contains one room, 80x40 feet, with strong beams above for fastening the usual fixtures.

It is equipped with Spalding's gymnasium apparatus

and is open to all students at stated hours, under the care of an officer.

The athletic field has a quarter-mile cinder track and ample space for football, baseball and general athletics.

DISCIPLINE.

The government of the College is administered by the President and Faculty in accordance with the code of laws and regulations enacted by the Trustees.

Attention to study and punctuality in attendance in recitations and all other duties, are required of every student. Students are prohibited from having in their possession arms or weapons not issued for the performance of military duty, and also from using or causing to be brought into the College limits, intoxicating liquors.

Students are not permitted to participate in any public entertainment, or game, without previously obtaining the consent of the Faculty.

No cadet will be permitted, without the approval of his parent or guardian, to take part in a public game of football; nor will permission be given for any athletic game to a student deficient in his studies.

MILITARY DRILL.

There are three regular military drills each week and all undergraduate students, not physically incapacitated to bear arms, are required to engage in these exercises; privates of the senior class are exempt.

The drills are short and the duty involves no hardships. The military drill is a health-giving exercise, and its good effects in the development of the *physique* and improvement of the carriage of the cadet are manifest.

RELIGIOUS SERVICES.

Religious services are held every morning in the chapel.

All students are required to attend these exercises, and also to attend the church of their choice at least once on Sunday.

Opportunities are also offered for attending Bible classes every Sunday.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This association is regularly organized and has a well furnished room on the first floor of the main building set apart for its exclusive use. Through its weekly meetings it exerts a wholesome Christian influence among the students.

Students are advised to unite with the Association when they enter the Institute.

The ladies of the different churches in Auburn have recently formed an auxiliary association to the Y. M. C. A. of this Institute. Assisted by members of the Faculty, they will hold monthly a joint service of praise in the College chapel and will provide lectures for the occasion.

They have also undertaken to build a special hall for the use of the Association, and will solicit subscriptions for that purpose.

The following are the officers:

W. B. Hamilton.....	President.
J. O. Webb....	Vice-President.
W. W. Rutland.....	Corresponding Secretary.
F. C. Atkinson	Recording Secretary.
W. L. Thornton	Treasurer.
F. B. Rutledge.....	Librarian.

LOCATION.

The Institute is situated in the town of Auburn, fifty-nine miles east of Montgomery, on the line of the Western Railroad.

The region is high and healthful, noted for its general good health and freedom from malaria, having an elevation of eight hundred and twenty-six feet above tide-water. By statute of the State the sale of spirituous liquors and keeping saloons of any kind are forbidden.

BOARDING.

The Institute has no barracks or dormitories and the students board with families in the town of Auburn, and thus enjoy all the protecting and beneficial influence of the family circle.

REGULATIONS.

(1) Each student upon entering is required to sign his name in the matriculation book and pledge himself to obey the rules and regulations of the College.

(2) Every absence from recitation or examination is graded zero.

(3) When the term grade of a cadet is lowered by reason of absence for which satisfactory excuse can be rendered, a special term re-examination may be subsequently granted, and the grade made on the special re-examination alone is substituted for that previously received.

(4) Only sickness, as reported by the Surgeon, or being absent by reason of family sickness, will constitute a satisfactory excuse for granting a re-examination.

When a cadet is called away from College by his parents his zeroes for absence are not removed.

(5) The term grade of a student is the average of his daily sessional and term examination marks, found by giving due weight to the term examination.

(6) Privates of the senior class in full standing who are candidates for graduation may be excused by the President from all military drills, and also students over twenty-one years of age at the time of entering College that are permitted to devote their time to one special study, as chemistry, agriculture or pharmacy, provided the time devoted to drill is spent by them in laboratory work.

No cadet can continue an officer in the corps who during a session is classed in the fourth grade in two or more subjects at any term examination, or in the fourth grade in one subject at two term examinations; nor who receives during the session more than 60 demerits. For failures of officers re-examinations will not be granted.

DISTINCTIONS.

Distinctions are awarded in the different subjects of each class to those students whose grade for the entire year is above ninety per cent.

Certificates of distinction are awarded in public on Commencement day to those who obtain an average of 90 per cent. in all the prescribed studies of a regular class; and also to those who obtain three distinctions in the freshman class, four in the sophomore class, five in the junior class, and six in the senior class, provided they have satisfactorily passed all the regular examinations of that session, and have not received forty demerits during the year.

A distinction is not given in the senior class if the average grade in any one subject is less than 75 per cent.

HONORS.

Members of the senior class who attain distinction at the final examinations with an average grade, in the subjects required, of 95 per cent. will be published as

GRADUATES WITH HIGHEST HONOR.

Those who attain distinction with an average grade of 90 per cent. and less than 95, are published as

GRADUATES WITH HONOR.

Those who attain less than 90 per cent. and more than 60 per cent. are published as *Graduates*.

Students of the classes lower than the senior, who attain distinction with an average grade in the required subjects of 95 per cent. are published in alphabetical order as having attained the *Highest Distinction*.

RECORDS AND CIRCULARS.

Daily records of the various exercises of the classes are kept by the officers of instruction.

At the close of each term and at regular intervening intervals reports, giving the grade made by each student, are sent to the parent or guardian.

EXAMINATIONS.

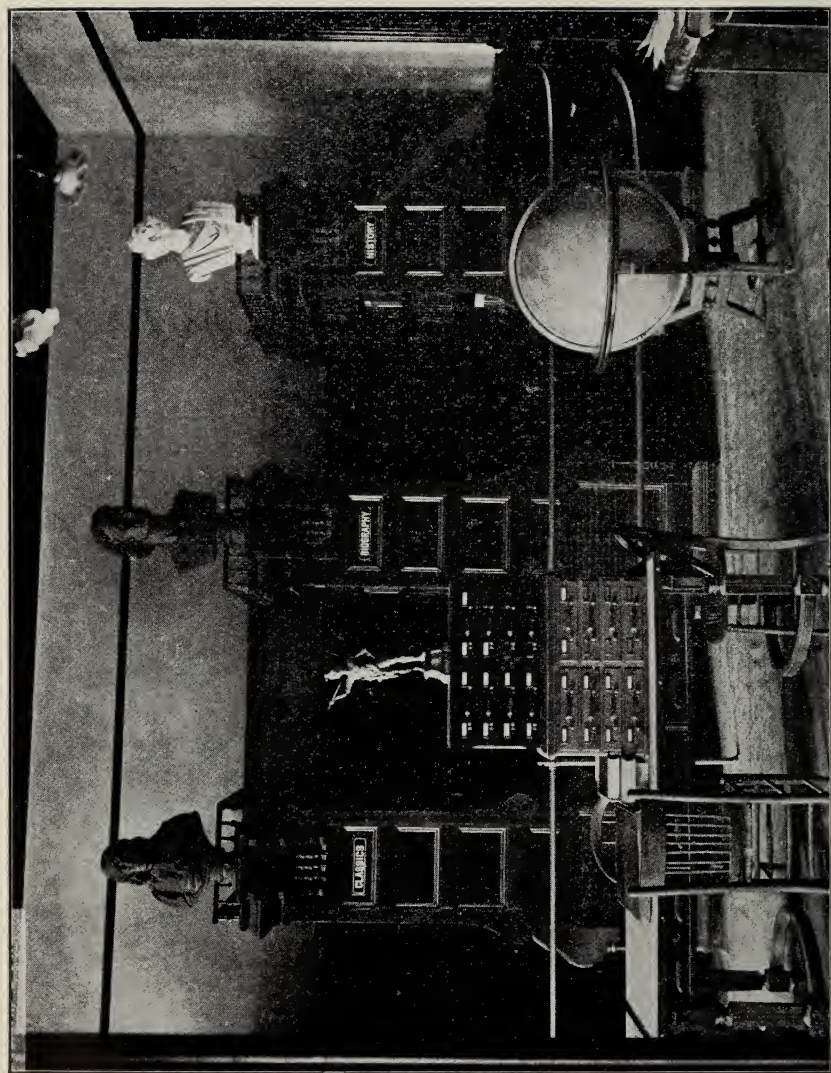
Written examinations on the studies of the month are held by each professor during the months of October, February and April. Each examination occupies one hour.

At the end of each term written examinations, or written and oral, are held on the studies passed over during that term.

Special examinations are held only by order of the Faculty, and in no case will private examinations be permitted.

Students falling below the minimum grade at the final examinations, can be promoted to full standing in the next higher class only on satisfactory examinations at the opening of the next session.

It is required that every student who enters the College shall remain through the examinations at the end of the term. Leaves of absence and honorable discharges will, therefore, not be granted within three weeks of the examination, except in extreme cases.



GENERAL LIBRARY.

LIBRARY.

The Library occupies an elegant, well-lighted room in the main building, and also two smaller adjacent rooms. It contains over 16,000 bound volumes, including valuable reference and scientific books, with select editions of standard authors, and others suitable for students, carefully and recently selected. It is kept open eight hours daily for the use of students as a reading room and is thus made an important educational feature.

MUSEUM.

The Museum occupies a large room in the third story. It is provided with suitable cases and is equipped with valuable specimens and models of an instructive character. It is under the charge of Professor P. H. Mell, to whom specimens as contributions may be sent.

BOARDING HOUSES.

For each house an inspector is appointed, whose duty it is to report those who, without permission, leave their rooms after "call to quarters," or are guilty of any violation of order. The report of the inspector is made to the Commandant on alternate days of the week.

Students, after selecting their boarding houses, are not permitted to make changes without obtaining permission from the President, and this permission is given only at the close of a term, except for special reasons.

Permission to board and lodge at separate houses will be granted only to seniors, to cadets twenty-one years of age and to those who are on the "honor roll," except on special conditions.

EXPENSES.

There is no charge for tuition for a resident of Alabama.

Incidental fee, per session	\$5.00
Library fee, per session	2.00
Surgeon's fee, per session	5.00
	<hr/>
	\$12.00

These fees are payable on matriculation. By order of the Trustees no fees can be remitted.

For students entering after January 1st, the fees for a half session only are required.

Board, including lodging, fuel and lights, is furnished at \$12.50 to \$15.00 per month.

For a non-resident of the State there is a charge for tuition of \$20.00 per session, payable on matriculation, in addition to the annual fee of \$12.00 payable by all students.

The necessary expenses for a session, not including uniforms or books, are for a resident of Alabama, as follows:

College fees	12.00	12.00
Board, lodging, fuel and lights....	112.50	135.00
Washing	9.00	9.00
Total	<u>\$133.50</u>	<u>\$156.00</u>

By special arrangement with the College authorities, Mrs. M. L. Mitchell, Mr. R. S. Rutland and Mr. B. T. Blasingame will accommodate students with board, lodging, fuel, etc., for \$9.50 per month.

By boarding at one of these houses the necessary expenses may be reduced to \$106.50 per session. This estimate does not include the cost of the uniform, about \$15.00, or of books, say from \$5.00 to \$15.00, or the laboratory fees in the higher classes, \$5.00 or \$10.00.

LABORATORY FEES.

For each student in the junior or senior laboratory in chemistry, or in electrical and mechanical engineering, a fee of \$5.00 per session is required. This fee is payable on admission to the laboratory, and is not remitted.

NON-RESIDENT STUDENTS.

Tuition for students, not residents of Alabama, is \$20.00 per session, unless remitted by the Trustees to worthy students upon the recommendation of the Faculty.

The remission of this tuition fee to non-resident students will be granted in the form of a free scholarship for the succeeding year, to those who obtain a distinction the preceding year or who, by reason of merit, are deemed worthy.

This tuition for non-residents is remitted to sons of ministers of the gospel.

HONOR SCHOLARSHIPS.

The following non-resident students were granted, each by reason of special merit in conduct and scholarship during the session of 1900-1901, an honor scholarship, which exempted from tuition fees:

James Henderson Childs	Georgia.
Berner Leigh Shi	Georgia.
Dudley Chipley	Florida.
Sallie Fleming Ordway	Tennessee.
Walker Dorr Willis	Florida.
John Eayres Davis Yonge	Florida.
Karl Edward Lindrose	Mississippi.
Henry Edward Werner	Texas.

UNIFORM.

A uniform of cadet gray cloth is prescribed, which all undergraduate students are required to wear during the session. The uniforms are made, by a contractor, of excellent cloth manufactured at the Charlottesville mill. This suit, including cap, costs at present \$15.50. It is neat and serviceable, and less expensive than ordinary clothing.

CONTINGENT FEE.

A contingent fee of five dollars is required to be deposited by each student on matriculation, to cover any special or general damage to College property for which he may be liable. General damages are assessed on the body of students.

At the close of the session the whole of the contingent fee, or the unexpended balance, is refunded to the student.

AMOUNT OF DEPOSIT.

Fees to be paid on entrance:		
Incidental fee	\$5 00	
Library	2 00	
Surgeon	5 00	
Contingent fee	5 00	
Uniform	15 50	
<hr/>		
For a resident of Alabama	\$32 50	\$32 50
Tuition non-resident		\$20 00
<hr/>		

For a non-resident\$52 50

Besides the above, the student should deposit with the Treasurer enough to pay for books, one month's board, incidentals, amounting to, say, \$27.50. Hence, a resident of Alabama should deposit with the Treasurer \$60.00; a non-resident, \$75.00.

FUNDS OF STUDENTS.

Parents and guardians are advised to deposit with the Treasurer of the College all funds desired for sons, or wards, whether for regular charges of college fees or board, or for any other purpose. It is the duty of this officer to keep safely all funds placed in his hands, and to pay all expenses incurred by the students, including board, uniform, books, etc., when approved.

When funds are deposited checks are drawn on the Treasurer of the College by the Cadet to pay his necessary expenses. These checks are paid only when officially approved. The approval is given only for necessary expenses, as stated in the catalogue, unless specially requested in writing by the parent.

The College cannot be held responsible for the expenses of a student, unless the funds are deposited with the Treasurer. No student should be permitted to have a large amount of pocket money, as it brings only trouble and encourages idleness.

THESIS.

Each applicant for a degree is required to write and submit to the Faculty a thesis, or oration, and read and deliver the same at Commencement, if required by the Faculty.

There may be presented, with the approval of the professor in charge, a carefully written report of special work done in a labora-

tory showing independent investigation and discussion of some subject.

It must be given to the Professor of English by the first of May.

The subject must be submitted for approval by January 1st.

LITERARY SOCIETIES.

There are two literary societies connected with the College—the Wirt and the Websterian. Each has a hall in the main building.

These societies hold celebrations on the evenings of Thanksgiving Day and 22nd of February. A gentleman, selected by the Faculty, is invited to deliver an address before the Literary Societies at Commencement.

To encourage the literary societies the Trustees have directed that a medal be awarded on Commencement day to the member of each society who is both efficient and regular in attendance, and who is the best debater. The method of selection to be determined by the Faculty.

EXERCISES IN ELOCUTION.

On every Saturday morning, immediately after chapel services, oratorical exercises in declamation and in original orations are conducted by the Professor of English, in the presence of the Faculty and students.

The *first and second terms* the students of the junior and sophomore classes are exercised in original orations and declamations.

The *second and third terms* the members of the senior class read essays or deliver original orations.

SOCIETY OF THE ALUMNI.

In 1885, the Alumni Society established "The Alumni Scholarship," which makes an annual loan of one hundred and seventy dollars to a beneficiary elected by the society. Young men have thus been enabled to go through college. This scholarship is supported by annual contributions from the Alumni and other friends of the institution.

The beneficiary selected is admitted without charge for tuition or college fees of any character.

Subscriptions should be sent to B. H. Crenshaw, Treasurer, Auburn, Ala.

The annual alumni oration is delivered by a member of the society in Langdon Hall, on Alumni Day, Tuesday of Commencement week.

The following are the officers of the society :

R. F. Ligon, Montgomery, Ala	President.
T. D. Samford, Opelika, Ala.....	First Vice-President.
.....	Second Vice-President.
B. H. Crenshaw, Auburn, Ala.....	Treasurer.
W. O. Scroggs, Auburn, Ala.....	Secretary.
J. F. Webb, Talladega, Ala.....	Orator for 1902.

SURGEON.

The surgeon is required to be present at the College daily, to visit at their quarters the cadets that are reported sick, and to give all requisite medical attention without other charge than the regular surgeon's fee, paid on entering college.

ACADEMIC YEAR.

The academic year for 1902-1903 commences on Wednesday, 10th September, 1902, (*second Wednesday after the first Monday*,) and ends on Wednesday, 10th June, 1903, (*second Wednesday after first Monday*), which is Commencement Day.

It is divided into three terms. The first term extends from the opening of the session to the 23d December; the second term begins January 6th, and ends March 14th; the third term continues to the close of the session.

DONATIONS TO THE LIBRARY.

U. S. Government.—Public Documents, 193 volumes.

James W. Stewart, Cleveland, Ohio.—Mark Hanna and Other Essays, by Solon Lauer.

T. W. Palmer, Tuscaloosa, Ala.—Official Register of the Officers and Students of the University of Alabama.

Henry T. Coates & Co., Philadelphia.—Casting of Nets, by Richard Bagot.

American Swedenborg Printing and Publishing Society, New York.—The Works of Emanuel Swedenborg, 21 volumes.

Mrs. M. E. Bell, Auburn, Ala.—Church Book of the Ash Creek (Ala.) Baptist Church, 1833-1863.

H. H. Meadows, Atlanta, Ga.—Steam: Its Generation and Use, by Babcock & Wilcox Co.

B. F. Johnson Publishing Co., Richmond, Va.—Elements of Agriculture, by James Bolton McBryde.

Paul I. Murrill, Hickory, N. C.—Alkaloidal Estimation, by P. I. Murrill.

DONATIONS TO COLLEGE MUSEUM

During Session of 1901-1902.

By A. R. Gray, stalagmite from Marion County, Florida; by R. W. Butler, double egg; by Mr. Motley, relic found on Ogletree plantation, near Auburn, Ala.; by M. T. Fullan, skin of boa constrictor from Nicaragua; by James C. Harper, sigillarids from near Birmingham; fossil fern from near Birmingham; by J. R. St. John, Spanish sword; by Miss Mary E. Reese, Indian pipe of peace; by F. J. Houston, cartridge of shell fired from the torpedo boat Porter; by University of Alabama, slate from Clay county; mica schist from Coosa county; slate from Tallapoosa county; tourmalin, graphitic mica schist, mica schist with granite, granite, magnetite, zinc, lead and chert, diorite, quartzite, garnets, quartz rock, zinc blend, actinolite schist, graphite schist, mica schist with garnets, staurolite schist, Talladega slate, corundum, pyrite, Talladega conglomerate, cyanite, gypsum, calcite crystals, barite, plicated slate, Ashland mica schist, gypsum with salt, chrysolite slate, igneous rock; by Jones-Williams, Indian pipe of peace, shark's tooth; by A. M. McNeel, fossil starfish, shark's teeth, other fossils, iron pyrites, trilobite, petrified bark, fossil oyster shells, fossil vertebra of fish; by C. E. Field, snake; by A. F. Jackson, Florida moss, shells; by Mrs. Dowdell, geode; by E. L. Reese, Indian grinding rock; by Mrs. Lizzie Matthews, petrified wood; by A. S. Hertz, book of flowers from the Holy Land; by S. L. Coleman, coral; by Mrs. O. D. Smith, red iron; by Dudley Chipley, rock from

Niagara Falls, satin spar from England; by J. F. Duggar, cowpea roots with tubercles, cowpea roots with nematodes; by A. F. Whitfield, human skull; by B. S. Patrick, old A. P. I. cadet flag, old East Alabama College cadet flag; by Dr. Remus Persons, insects and shells collected in and around Manila; shells gathered on beach near Yokohama, Japan; saw of sawfish; venus shells from near Colon.

DONATIONS TO AGRICULTURAL DEPARTMENT.

2 vials almit from Farbenfabriken Elberfeld Co., New York City.

1 package Swift's arsenate of lead, from Merrimac Chemical Co., Boston, Mass.

5,720 lbs. of Kanit, from German Kali Works, New York City.

1,120 lbs. muriate of potash, from German Kali Works.

1 quart Sanders corn, from W. S. Sanders, Damerville, Ga.

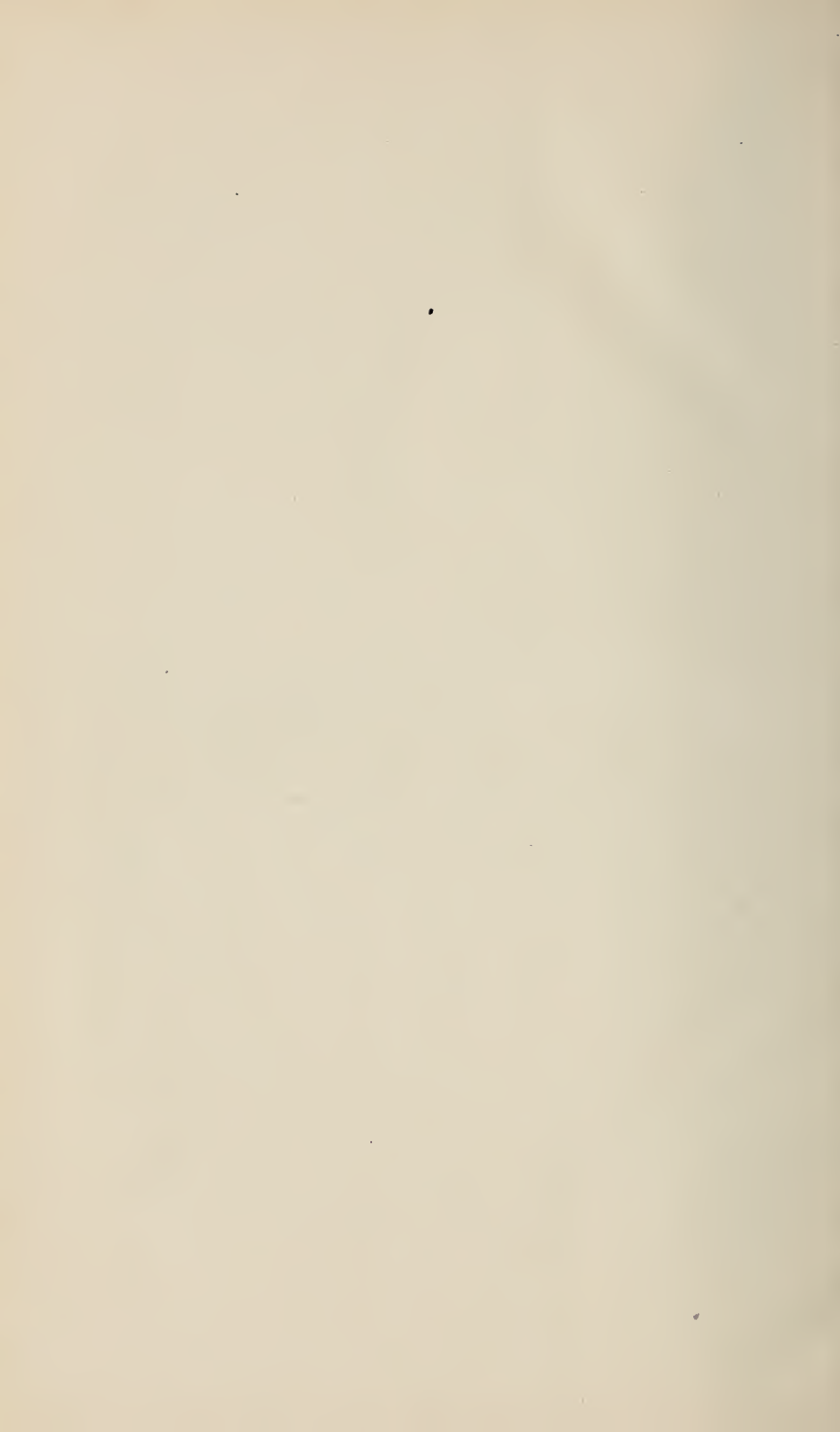
900 lbs. Nitrate of Soda, from Propaganda Nitrate of Soda, New York City.

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